A PROSPECTIVE OPEN LABELED RANDOMIZED CLINICAL STUDY ON

"CEGANA VATHAM"

WITH

INGI CHOORANAM

Dissertation submitted to

THE TAMILNADU Dr. M.G.R MEDICAL UNIVERSITY

Chennai-32

For the partial fulfillment in awarding the Degree of

DOCTOR OF MEDICINE (SIDDHA)

(Branch I – Pothu Maruthuvam)

DEPARTMENT OF POTHU MARUTHUVAM

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI – 627 002.

OCTOBER - 2018

GOVERNMENT SIDDHA MEDICAL COLLEGE

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BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled **"A Prospective Open Labeled Randomized Clinical Trial of "INGI CHOORANAM" for CEGANA VATHAM (Cervical Spondylosis)"** is a bonafide work done by **Dr. A.NAHITHA LUBANA (Reg No: 321511004)** Govt. Siddha Medical College, Palayamkottai- 627002 in partial fulfillment of the University rules and regulations for award for **M.D (Siddha), Branch I- POTHU MARUTHUVAM** under my guidance and supervision during the academic year **2018.**

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CERTIFICATE

Certified that I have gone through the dissertation entitled **"A PROSPECTIVE OPEN LABELED RANDOMIZED CLINICAL TRIAL ON INGI CHOORANAM in the management of CEGANA VATHAM (Cervical Spondylosis)"** submitted by **Dr.A.NAHITHA LUBANA (Reg No: 321511004)** a student final Year **M.D (Siddha), Branch I-Department of Pothu Maruthuvam** of this college and the dissertation work has been carried not by the individual only. This dissertation does not represent or reproduce the dissertation submitted and approved earlier.

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DECLARATION

I declare that the dissertation entitled **"A PROSPECTIVE OPEN LABELED RANDOMIZED CLINICAL TRIAL ON CEGANA VATHAM (CERVICAL SPONDYLOSIS) WITH INGI CHOORANAM"** submitted for the degree of MD in siddha medicine of Government medical college, Palayamkottai, Tirunelveli, Tamilnadu (The Tamilnadu Dr.M.G.R.Medical University, Chennai) the record of work carried out by me under the supervision of **Prof. Dr.A.Manoharan, MD(S), Ph.D.,** Head of the Department of Pothu Maruthuvam , and guidance by **Dr.S.Justus Antony, MD(S)**, Assistant Lecturer, Government Siddha Medical College, Palayamkottai. This work has not formed the basis of any degree, diploma, associateship, fellowship or other titles in the University or any other University or institution of higher learning.

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ACKNOWLEDGEMENT

First of all I am very thankful, grateful to my Almighty God for his showered blessings upon me in performing my dissertation works.

I sincerely thank **Prof. Dr. R. Neelavathi, M.D.(S).,** Principal, Govt. Siddha Medical College, Palayamkottai for permitting me to use all the facilities available in this institution.

I express my whole hearted thanks to **Prof. Dr.A.Manoharan, M.D.(S).Ph.D,** Head of the Department, Pothu Maruthuvam for his valuable guidance in each and every step and encouragement in my dissertation work.

I express my deep gratitude to my Guide **Dr.S.Justus Antony, M.D.(S).**, Assistant Lecturer, Post Graduate, Department of Pothu Maruthuvam for her guidance in my dissertation work.

I express my thanks to **Dr. T.Komalavalli, M.D.(S).,** Associate Professor, **Dr.G.Subash Chandran, M.D.(S).,Ph.D.**, **Dr.S.Chithra,M.D.(S)., Dr. S. Uma Kalyani, M.D.(S)., Dr. P. Sathish Kumar, M.D.(S).,** Lecturers in PG Department of Pothu Maruthuvam, for their valuable suggestions for my dissertation work.

I express my thanks to **Mrs. S. Sutha, M.Sc., Ph.D.,** Associate Professor in Department of Medicinal Botany, **Prof. Mrs. N. Naga Prema, M.Sc., M.Phil., Ph.D.,** Department of Bio Chemistry, Govt. Siddha Medical College, Palayamkottai for her suggestions in the botanical and biochemical aspect of my work.

I express my thanks to **Mrs. T. Poonkodi, M.A., M.L.I.S.,** Librarian of Govt. Siddha Medical College, Palayamkottai and **Prof.N.Chidambaranathan,Ph.D., Principal, KM College of Pharmacy, Uthangudi, Madurai** for permitting me to utilize the college facilities for my dissertation work.

And I express my deep sense of gratitude to my Parents ,my Sister, my Husband & my Child who gave me a marvelous support.

ABBREVIATION

%	-	Percentage
CT- Scan	-	Computerized Axial Tomography
X-Ray	-	Roentgen ray
MRI	-	Magnetic Resonance Imaging
CSF	-	Cerebrospinal Fluid
NDI	-	National Democratic Institute
WBC	-	White Blood Cell
OP	-	Out Patients
IP	-	In patients
AP View	-	Anterosposterior view
TC	-	Total count
DC	-	Differential count
ESR	-	Erythrocyte sedimentation Rate
Hb	-	Hemoglobin
HCl	-	Hydrochloride
IUG	-	Infragastric Catheter tube
IGC	-	Intra Gastric Catheter tube
Mg	-	Milligram

CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Cegana vatham is a most commonest disease now a day. Its increased occurrence in recent times is due to stress, strain and abnormal dietary habits. This disease affects the neck and upper extremities with its signs and symptoms like that of cervical spondylosis.

I had diagnosed the disease by using siddha parameters like envagaithervugal, kaalam, Thinai, Mukkutra Verupadugal and modern parameters.

Ingi chooranam was a formulation mentioned in **Agasthiya Mamunivar Paripooranam – 400** (Page No: 57) which finds an indication for **vatha diseases**. Therefore I was desired to evaluate the efficacy of "**Ingi chooranam"** in the treatment of **Cegana vatham.**

The clinical trial medicine was subjected to biochemical and pharmacological analysis. 20 OP and 20 IP patients of both sexes were selected and they were administered with the trial drug. At the end of the study majority of the cases which showed good clinical improvements.

CHAPTER-I

INTRODUCTION

The Siddha system of medicine mainly practiced in the southern part of the India, is one of the earliest traditional medicine systems in the world, it deals with physical, psychological, social and spiritual well being of an individual. The roots of this system are inter twined with the culture of ancient Tamil civilization.

In the Siddha system of medicine, the human body is constituted of five primordial elements (or) panchabhoothas viz Earth, Water, Fire, Air and Space. The Pancha bhootha pancheekaranam theory (Five fold combination) of Siddha science explains the origin and formation of these basic elements .The five elements are formation of every substance of the universe.

According to pancheekaranam theory, each five elements is possess two properties viz. Subtle and gross. These elements always act in mutual co-ordination and can never act independently. The various proportions in which they combine gives rise to different substances. Thus this theory proposes that 96 basic factors exist, which is the basic concept underlying this holistic medical science.

The human body formed by these 96 basic factors is conditioned mainly by:

1) Uyir thathukkal (Trithodam (or) Mukkutram) are the three humours viz. Vatham, pitham, kabham.
2) Udal thathukkal are the physical constituents, or the seven tissues viz. Saaram, senneer, oon, kozhuppu, enbu, moolai, sukkilam and suronitham.

The 96 factors are including physical, physiological, psychological, intellectual aspects of every human body. The five primordial elements manifest themselves as a human through these 96 basic factors.

UYIR THATHUKKAL:

Uyir thathukkal literally means ‘Life force’. In Siddha, Vatham, pitham and kabham which are the three humours are responsible for the creation, preservation and destruction of human

body and health. When they are in the state of equilibrium (1:1/2:1/4 – the ratio in which they exist) our body remains in a healthy state .While any disturbance in this ratio leads to diseased.

Vatham represents the elements 'air' and 'space'. It is responsible for all movements of mind and body. Motor sensory activities are governed by vatham.

Pitham represents the element 'fire'.

Kabham represents the elements 'earth' and 'water'.

UDAL THATHUKKAL:

The human body is constituted of seven tissues as its physical constituents, which are known as Udal thathukkal.

Physical constituents (Udal thathukkal)	**Related body constituents**	**Basic elements (Pancha bhoothaus)**
Saaram	Plasma	Water
Senneer	blood	Fire + water
Oon	muscle	Earth + water
Kozhuppu	Adipose tissue	Water + earth
Enbu	bone	Earth + air
Moolai	marrow	Water + air
Sukkilam / Suronitham	Male or female hormones, reproductive tissue	Fire + air

The Udal thathukkal (Physical constituents) is a sequence beginning from saaram to sukkilam and provides total nourishment to the body on eighth day, after nourishing each constituent.

The objective of the siddha system is to maintain the balance of the three thathus and thereby correcting the disease in the body.

Siddhars classified the diseases into 4448 types. According to **Yugi vaithiya chinthamani – 800,** Cegana vatham comes under 80 types of vatha diseases . **Cegana vatham** can correlate in modern science is **Cervical spondylosis**.

Cervical spondylosis is a common degenerative change of the cervical spine that affects the vertebral bodies and intervertebral discs of the neck. Evidence has shown that the incidence of cervical spondylosis increases with age . However, the relationship between age and the incidence of cervical spondylosis remains obscure. It is essential to note the relationship between age and the incidence of cervical spondylosis through more and more clinical data.

The incidence of neck pain in adults is approximately 20-50% per year, much of which is caused by spondylosis. The prevalence of cervical spondylosis is similar for both sexes, although the degree of severity is greater for males. Approximately 95% of people by age 65 have cervical spondylosis to some degree.

The clinical study is carried out with the medicine **"INGI CHOORANAM"** is referred in **"AGASTHIYA MAMUNIVAR PARIPOORANAM -400** (Pg. no: 57), A Siddha formulatory text.

The medicine was prepared in PG Gunapadam laboratory under guidance of the concerned department faculty and was administered in 20 selected OPD cases and 20 selected IPD cases of **Cegana vatham** in various aetiology and the clinical study was undertaken in the post graduate department of Pothu maruthuvam at Govt. Siddha medical college, Palayamkottai, Tirunelveli.

CHAPTER-II

AIM AND OBJECTIVES

AIM

To evaluate the therapeutic efficacy of the trial drug "**INGI CHOORANAM**" (Internal Medicine) in the treatment of Cegana vatham (Cervical spondylosis)

OBJECTIVES

- To collect literary evidence about "Cegana vatham" disease in detail.
- The unique aspect of siddha principles namely tridosha theories with respect to taste (suvai) and seasonal variation (paruvakalam) are intrepted with disease.
- To collect worthy ideas about Cegana vatham with deep observation of aetiology, clinical features, diagnosis and prognosis of the disease.
- To study the incidence of the disease, with respect to age, sex, socio economic status, habit and family history.
- To expose the greatness and efficacy of siddha diagnostic principles, under the topic mukkutrum, poripulangal, udal kattugal & envagai thervugal.
- To extend a correlation of Aetiology, Classification, Signs and Symptoms of 'Cegana vatham' in Siddha and Modern aspect.
- To evaluate the pharmacological and bio-chemical analysis of the trial medicine.
- To confirm the diagnosis in siddha system with the help of modern parameters.
- To evaluate the anti- inflammatory and analgesic pharmacological activity of **'Ingi chooranam'**.
- To determine the safety of clinical trial drug.
- To evaluate siddha parameters (Envagai therugal) changes in Cegana vatham.

CHAPTER-III
REVIEW OF LITERATURE

a) SIDDHA ASPECTS

VATHAM

DEFINITION:

Among the five elements (panchaboothams) Vatha is formed by the vayu (air) and aahayam (space). This is one of the three humours (vatham, pitham, kabham). In a healthy man the existence of three humours in the ratio of 1:1/2:1/4 respectively. This ratio is altered (or) disturbance thus causes vatha disease.

FORMATION:

"இருப்பான நாடி எழுபதோ டீரா
ஈரமான தேகத்தில் ஏலப் பெருநாடி
ஓக்கதச மத்தொழிலை ஊக்கதச வாயுக்கள்
தக்கபடி யென்றே சாரும்."
"சாருந்தச நாடிதன்னில் மூலம் மூன்று
பேருமிடம் பிங்கலையும் பின்னலுடன் - மாறும்
உரைக்கவிரற் காற்றொட் டுணர்த்துமே நாசி
வரைச்சுழியோ மையத்தில்வந்து."
"வந்தகலை மூன்றில் வாயுவா மபானனுடன்
தந்த பிராணன் சமானனுக்குஞ் சந்தமறக்
கூட்டுறவு ரேகித்தல் உறும்வாதம் பித்தம்
நாட்டுங் கபமேயாம் நாடு."

-கண்ணுசாமியம்

நோய் நாடல் நோய் முதல் நாடல் திரட்டு- பாகம்-1 ப:எண்:93

According to this the human body is composed of 72,000 naadi narambukal. Among this ten are prominent naadies (dasa naadies). Of these ten naadies, Idagalai, Pingalai and Suzhumunai are known as moolathara naadies. Among the ten vayus five are more important. They are Piranan, Abanan, Viyanan, Uthanan and Samanan.

In these, Abanan in conjunction with Idagalai to produce vatha.

Piranan in conjunction with Pingalai to produce pitha and Samanan in conjunction with Suzhumunai to produce kapha.

These three humours or thathus (i.e) vatha, pitha, kabha, are the functional principles in the composition and substance of the body.

SITES OF VATHAM:

According to **Vaithiya sathagam**, the places of vatham as follows

"நெளிந்திட்டவாதமபானத்தைப் பற்றி
நிறைந்திடையைச் சேர்த்துந்திக் கீழேநின்று
குளிந்திட்ட மூலமதுடெழுந்துகாமக்
கொடியிடையைப் பற்றியெழுங் குணத்தைப் பாரே
குணமானவெலும்பைமேற்றொக்கைநாடி
.....
நிணமானபொருத்திடமும் ரோமக் காலும்
நிறைவாகிமாங்கிசமெல் லாம்பரந்து
.....
.....
கால்காட்டிவாதமெங்குங்கலக்குந் தானே"

- வைத்தியசதகம்

*Rectum	*Joints
*Umblicus	*Bones
*Hipjoint	*Skin
*Muscles	*Nervous plexus
*Hair follicles	*Anus

According to **Agathiyar ayulvedham – 1200** and **Agathiyar maruthuvam**, places of vatham are umbilicus,

"வேதமே யுரையே யுண்மை மெய்வாதவீடு தொப்புள்
……..
……

……..''

-அகத்தியர் ஆயுள்வேதம்-1200.

''உந்தியி லொதுங்கி நிற்கும்
உறுப்பயி னெட்டு வாதம்''

-அகத்தியர் மருத்துவம்.

According to **Thirumoolar** and **Yugimuni, Thearaiyar naadi** the places of vatham are cited below the umbilicus.

''அறிந்திடும் வாதமடங்குமலத்தினில்''

-திருமூலர்.

''நாமென்றவாதத்துக் கிருப்பிடமேகேளாய்
நாபிக்குக் கீழென்றுநவிலலாகும்''

-யூகிமுனிவர்.

''வாதத்தின் படைவீடு னாபிக்குமங் கீழே''

-தேரையர் நாடி

According to **Vaithya Sarasangraham**, Vatham is placed from umbilicus to anus.

''செப்புமுந்திசிதையும் வாதநிலை''

-வைத்திய சாரசங்கிரகம்

In **Maruthuva thani padalkal**, Vatham is predominent in Small intestine, Bone, Ear, Thigh, Skin and Hip joint.

''உண்டிசமைத்துடற் கூட்டுங் குடற்பகுதி
திண்டிறலென்புசெவிகுறங்கு - விண்ட
தொடுவுணர்வுதோற்றுவிக்கும் தோலிடுப்பிவ்வாறும்
வடுவிலிடாமாம் வளிக்கு''

-மருத்துவ தனிபாடல்கள்.

According to **Thanvanthiri,**

''வேதமே யுரைத்த வாதத்தின் வீடு பாயுதொப்புள்
ளோதிய பித்தத்தின் வீடுதாமே சிலேத்மனத்துக்
கூதியா மிதயமே வீடாகு மீதென்று தானே
தீதில்லா முன்னோர் பேசும் வாகடச் செய்மைதானே''

-தன்வந்திரி நாடி.

NATURAL FUNCTIONS OF VATHAM:

"ஒழுங்குடன் தாதேழ் மூச்சோங்கி இயங்க
எழுச்சிபெறஎப்பணியுமாற்ற - எழுந்திரிய
வேகம் புலன்களுக்குமேவச் சுறுசுறுப்பு
வாகளிக்கும் மாந்தர்க்குவாயு"

- மருத்துவ தனிபாடல்.

- Alertness
- Respiratory movements
- Mental and physical activities
- Elimination of the "fourteen physiological reflexes" (vegamgal)
- Functioning of the "Seven udalkattugal'
- Strengthening of the five sensory organs (Iymporigal)

DERANGED (or) ALTERED VATHAM

According to **Noinadal noimudhal nadal thirattu-part I**;

It can produce the following symptoms are**,**

- Bodyache
- Pricking pain
- Tearing pain
- Nerve weakness
- Tremor
- Rigidity
- Dryness
- Movements
- Weakness
- Throbbing pain
- Weakness of functional organs and loss of functions
- Constipation
- Retention of Urine
- Thirst
- Paralysis of limbs

- Severe pain in calf and thigh muscles
- Pricking pain in the bones
- All taste to be like astringent
- The skin, eyes, faeces and the urine are black in colour.

According to **Agasthiyar ayulvetham -1200**,

"மெய்யே நடுக்குந் தலைவலிக்கு
மேனி வெளுறுங் கண்டூங்கும்
பொய்யே துவரங் கிறுகிறுக்கும்
போதே நயன மெய் நெறியுங்
கைகால் திமிர்ந்து வுலர்த்தி வைத்துக்
கண்ணுமூக்குஞ் சன்னி கட்டு
கையா மெய்யு மிகவுளவாம்
வாதரோக குணமிதுவே".

-அகத்தியர் ஆயுள்வேதம்-1200

According to **Agasthiyar vaithiya kaviyam-1500,**

"காணப்பா வாதமீறில் கால்கைகள் பொருத்துநோவும்

பூணப்பா குடல்புரட்டும் மலசலம் பொருமிக்கட்டும்

ஊணப்பா குளிருங் காய்ச்சல் உடம்பெல்லாம் குத்து வாய்வு

வீணப்பா குதமிறுக்கும் வியர்வையும் வேர்க்கும் தானே"

-அகத்தியர் வைத்திய காவியம்-1500

According to **Agasthiyar naadi**,

"சொல்லவே வாதமது மீறிற்றால்

சோர்வடைந்த வாயுவினால் தேகமெங்கும்

மெல்ல கைகால் அசதி யுண்டாம்

மெய்முடங்கும் நிமிரவொண்ணாத் திமிர் உண்டாகும்"

-அகத்தியர் நாடி.

1. Weakness of the limb

2. Sluggishness

3. Stiffness

4. Numbness

QUALITY OF VATHAM

Six qualities which manifest when vatham increases are;

Hardness	-	Kadinam
Dryness	-	Varatchi
Subtility	-	lesu
Coldness	-	Kulirchi
Mobility	-	Asaithal
Minuteness	-	Anuthuvam

OPPOSITE QUALITIES

Soft	-	Mirudhu
Unctuous	-	Pasumai
Heaviness	-	paluvu
Hotness	-	Akini
Stability	-	Sthiram
Solid	-	Katti

RELATION WITH TASTE

"Sour" taste indicates increased vatham

"சேத்தும மெழுந்திருக்கிற் தித்திப்பு நாவிலேறும்
ஏத்திய கசப்புமீறில் எழும்பிடும் பித்தமாகும்
மாத்திய புளிப்பு மீறில் வந்திடும் வாதமாகும்
சேத்துமந் தண்ணீர் பித்தத் தீகாற்றுவாதமாமே"

- அகத்தியர் நாடி(நோய் நாடல் part I, Pg.no: 22)

AGGRAVATING FACTORS

The foods with "Sour" and "Astringent" taste aggravatesVatham.

"புளிதுவர்விஞ் சுங்கறியாற் பூரிக்கும் வாதம்,
ஒளியுவர்கைப் பேறில் பித்துச் சீறும் - கிளிமொழியே
கார்ப்பினிப்புவிஞ்சிற் கபம் விஞ்சுஞ் சட்டிரதச்
சேரப்புணர் நோயணுகாதே".

-நோய் நாடல் Part I. Pg. 23

NEUTRALISING TASTE:

According to **kannusamiyam** "Sweet", "Sour" and "Salt" taste neutralize the increased vatham.

"வாதமேலிட்டால் மதுரம் புளியுப்பு
சேதமுறச் செய்யுஞ் சிறையம் - ஓதக்கேள்
காரந் துவர்கசப்புக் காட்டுஞ் சுவையெல்லாம்
சாரப் பரிகாரஞ் சாற்று".

-கண்ணுசாமியம்

நோய் நாடல் Part I. Pg. 24

RELATION OF TASTE WITH BOOTHAM:

The six taste and their constituent boothams as follows,

TASTE	BOOTHAMS
Sweet	Earth + Water
Sour	Earth + Fire
Salt	Water + Fire
Bitter	Air + Space
Pungent	Air + Fire
Astringent	Earth + Air

Regarding diet, bitter, pungent and astringent taste contains "air" and bitter alone contains "space". If these are consumed in large amounts, it results in the vitiation of vatham and eventually vatha disease.

Alteration in Vatham

Vatham is specialized in Aadi,Avani, purattasi and Iyppasi physiologically. (Kadagam to Thulam)

According to **Vatha Noi Maruthuvam**, physiologically vatham specialized in morning time,

"ஞாலமாய் சடலம் தன்னில் நய்யவே- பிணி எல்லோர்க்கும்
காலமே வாதம் தோன்றும்……..
……
……."

-வாதநோய் மருத்துவம்.

The type of alteration of vatham is:

1. Thannilai Valarchi: - (தன்னிலை வளர்ச்சி)

Definition

The three humours are provoked in their own location it is called as "ThannilaiValarchi". It is also called "**Santhi Samayam**".

Limitation

Hatefulness of the things which are causing aggravation and attraction to things having opposite quatation.

Duration

Vatham is aggravated in "Mudhuvenil Kalam" (Aani and Aadi).

2. Vetrunilai Valarchi:- (வேற்றுநிலை வளர்ச்சி)(Displacement of aggravation)

Definition

Provoked humours displaced from their own location and aggravated in vetrunilai valarchi. It is also called "**Prakoba Samayam**".

Limitation

Signs and symptoms of the affected humours and the pathological conditions of the udalthathukkal gives the details of the limitations.

Duration

Vatham attains displacement of aggravation of "Kaar kalam" (Aavani and Purattasi)

3. Thannilai Adaidhal(தன்னிலைஅடைதல்)

Definition

Provoked humours, which is neutralizing in its own character is called Thannilai adaidhal. It is also called "**Samana Samayam**".

Duration

The provoked vatham can be neutralized during koothir kalam (Iyppasi and Karthigai).

FACTORS WHICH ALTER VATHAM

- When hot foods are mixed with vatham, "Vatham" gets "Thannilai Valarchi"
- When cold is mixed with vatham, "Vatham" gets "Vetrunilai Valarchi"
- And when only foods with hotness are mixed with vatham, "Vatham"

Neutralizes in its own property that means healthy conditions.

"வாயுவின் குணத்துடன் சூடணுகில்
வாயுவினி ˙டங்களில் நோய்களுண்டு
வாயுவில் குளிர்ச்சிதான் கூடிடிலோ
வந்திடும் நலிகளும் வேறிடத்தே
வாயுவில் அனல்தரும் நெய்ப்பமைந்தால்
வாயுவும் அடங்கிடும் வாய்மையிது
வாயுவின் பிணிகளைப் போக்கிடவே
வகுத்திடும் முனிமொழிகண்டிடுமே"

மருத்துவ தனிப் பாடல்கள்

According to **Agasthiyar manakkolam muthaliya ienthu noolkal**,

"ஆகாத வாதபித்த சிலேற் பனங்கள்
அணுகும் வகை சொல்லுவோம் புலத்தியாகேள்
வாகான மலச்சிக்கல் பெருந்தீனியாலும்
வாழைரசம் பிலாப்பழங்கள் மற்றுமுள்ள
பாகான மலைவாழை மொந்தம் வாழை
பகருகின்ற கல்வாழை வத்தக்காயும்
சாகாத நந்நிக்காய் பரங்கிக்காயும்
தண்டுடனே வாழைத்தண்டது வுமாமே.

தண்டாலு மெருமைமோர் தயிரும் வெண்ணெய்

தத்தியுண்ட வகையாலு முடனே போகம்

கொண்டாலும் புளிமிகுதி கொண்டிட்டாலும்

கொள்ளுடனே பெரும்பயறு உளுந்து கூட்டித்

தின்றாலு மழைதனிலே நனைந்தாலும்

சிறந்த பனைதென்னங்கள் சேரச் சேர

உண்டாலுங் கொழியருசி உமியினாலும்

உண்டபின்பு பச்சைவெள்ள முண்டதாலும்.

வெள்ளமதில் வெண்ணீர்விட்டுக் கொண்டாலும்

மீறுதயிர் புளிக்குமுன்னே உண்கையாலும்

கள்ளர்பூங் குழல் மடவார் போகஞ் செய்யில்

கணிபூக்கள் பால்பழங்கள் கருதினாலும்

முள்ளங்கி கடலைமொச்சை அவரைமுத்தல்

முருங்கைமுத்தல் முப்பழம்பால் சோறு பொங்கல்

வெள்ளரிக்காய் செம்மறியும் உடும்பு சேர்த்துண்ட

வீதத்தினால் வாதம் வருகு மெண்ணே".

-அகத்தியர் மணக்கோலம் முதலிய ஐந்து நூல்கள்.

CHARACTERISTICS OF VATHA THEGI:

According to **Agasthiyar ayulvaetham -1200**,

"சேரும் வாதக் குணந்தானே சீதமிகுந்திருக்கும்

……

……..

……..”

“மேவும் வாதமுடையவர் மெய் வலஞ்

சீவிதாகக் கருக்கிடுஞ் செம்மியே

……

……..”

“ஓங்கிய வாதத்தோர்க்கு நீர்விழுங் குணமுரைக்கிற்

பூங்கொடி கடுத்து நொந்து பொருமையே சிறுத்து விழும்

……

……..”

-அகத்தியர்ஆயுள்வேதம்-1200 (ப.எண்: 24)

According to **Pathinenn Siddhar Nadi Sasthiram**:-

Vatha thegi, body is black or red in colour, rough and thickened skin, increased sexual desire, spermaturia, body pain, loss of appetite, flatulence.

“கண்டாயோ வாதத்தா லெழுந்ததேகம்
கட்டிமையாய்த் தடித்திருக்கங் கருமைசெம்மை
வண்டாகுங் குழலாள் மேலற் பவாசை
வாய்வுமிகும் போகமுறுமனஞ்சிக் கென்றவ்
உண்டாலேஅற்பவுணடிஎரிப்போடுண்ணு
முறுதாறுகுறைச்சலுடம்புகளைஉசிதம்”.

-பதிணென் சித்தர் நாடிசாஸ்தீரம்

According to **Siddha Maruthuvanga Surukkam**

Vathathegi has an appearance of

- Thin, tall built
- Bulky thigh
- Thick eye brows
- Cool sight
- Black and white mixed coloured skin complexion.

- Dark and fissured hair in scalp.
- Clear speech, sometimes slurring
- They have a desire of sweet, sour, salt and hot food stuff.
- Dislike in cold things.
- Over eating.
- Less strength.
- Less Sexual desire
- Impotency
- Predictable games, music, exercise, massage, hunting
- Theft
- Short interrupted sleep.
- Slumber with half closed eyes.
- Seeing the sky, mountain and forest in night dreams.

Features of increased vatham

- Body will become black and emaciation.
- Liking to eat hot foods.
- Tremor
- Distended abdomen
- Constipation
- Weakness
- Disturbance in sleep
- Diminished activities of the five sense organs.
- Slurring speech
- Vertigo
- Loss of perseverance

Features of Decreased Vatham

- Body Pain
- Low Voice
- Decreased physical activities
- Mental agony
- Syncope

MUKKUTRA VERUPAADUGAL

By any one or other etiological factors vatham is vitiated first. Then it affects the other dhosams pitham and Kabham which are in three dhosa equilibrium.

Then the ten vayus, seven udalkatugal and other structures are also affected according to the severity of the illness.

In general vatha diseases Abanan, Viyanan, Samanan, Devathathan are affected.

Saram, Seneer, Oon, Kozhuppu, Enbu are also affected one by one.

VATHA NAADI NADAI:

According to **Agathiyar maruthuvam,**

"வாகிய அன்னங் கோழி

மயிலென நடக்கும் வாதம்

……..."

-அகத்தியர் மருத்துவம். (ப.எண்: 11)

NAADI NADAI IN VATHA DISEASES:

In Vatha disease, the following naadi are noted generally.

1. Exaggeration of Vatha naadi
2. Vathapitha thondha naadi
3. Vathakabha thondha naadi
4. Kabhavatha thondha naadi
5. Kabhapitha thondha naadi

CEGANA VATHAM

DEFINITION:

It is defined as a kind of neurologic pain affecting the neck and extending into the upper limb. It is attended with heaviness of body, giddiness, burning sensation of the eyes and dysuria.

T.V. Sambasivam pillai Dictionary – Pg.no:1752.

Cegana vatham is one among the 80 types of Vatha diseases; it was described in ***Yugi vaithiya chinthamani*-800.**

AETIOLOGY OF VATHA DISEASES:-

The common aetiological factors for all types of Vatha diseases including "**Cegana vatham"** have been described generally in ***Yugi vaithiya chinthamani*-800, *Agasthiyar kanma kaandam*-300 and *Agasthiyar gunavagadam***.

According to **Yugi vaithiya chinthamani-800:**

Breach of trust, abusing the holyman, and rituatists, exploiting the properties of charities, ingratitude towards mother, father and teacher and abusing holy suripis.

"என்னவே வாதம்தா னெண்ப தாகும்
இகத்திலே மனிதர்களுக் கெய்யு மாறு
பின்னவே பெண்தனையே சோரஞ் செய்து
பெரியோர்கள் பிராமணரைத் தூஷணித்தும்
வன்னவே வச்சொத்திற் சோரஞ் செய்து
மாதாபிதா குருவை மறந்த பேர்க்கும்
கன்னவே வேதத்தை நிந்தை செய்தால்
காயத்திற் கலந்திடுமே வாதந் தானே"

யூகி வைத்திய சிந்தாமணி (பா.எண் 243) பக்கம்:92

Intake of food with bitter, astringent, pungent, taste, drinks, daysleep, insomnia, starvation, sexual desire, etc, are ready to cause Vatha disease.

"தானென்ற கசப்போடு துவர்ப்பு றைப்பு
சாதகமாய் மிஞ்சுகிலுங் சமைத்த வண்ணம்
ஆனென்ற வாறினது பொசித்த லாலும்
ஆகாயத் தேறலது குடித்த லாலும்
பானென்ற பகலுறக்க மிரா விழிப்பு

பட்டினியே மிகவுறுதல் பார மெய்தல்
தேனென்ற மொழியார்மேற்சிந் தையாதல்
சீக்கிரமாய் வாதமது செனிக்குந் தானே"

யூகி வைத்திய சிந்தாமணி பா.எண் 244
பக்கம் 92.

According to **Agasthiyar kanma kaandam – 300,**

- ❖ Cutting the trees
- ❖ Breaking the legs of living animals
- ❖ Cutting the branches and leaves of living

"நூலென்ற வாதம் வந்தவகை தானேது
நுண்மையாய் கன்மத்தின் வகையைக் கேளு
காலிலே தோன்றியது கடுப்பதேது
கைகாலில் முடக்கியது வீக்கமேது
கோலிலே படுக்கின்ற விருட்ச மான
குழந்தை மரந்தனை வெட்டல்மேல் தோல்சீவல்
நாலிலே சீவசெந்து கால்முறித்தல்
நல்ல கொம்பு தழை முறித்தல் நலித்தல் காணே"

அகத்தியர் கன்ம காண்டம் (பாடல் 56, ப.எண்.22)

In Agasthiyar Gunavagadam,

- Vatha disease is caused by:
- Brain disease
- Renal disorders
- Sexually transmitted disease
- Disease of the vertebral and Spinal cord
- Menorrhagia
- Taking improperly prepared medicine of mercury and lead.

"தொல்லை செய்ய இன்னும் வெகு வாதநோய்கள்
தொல்லுலகில் மாந்தருக்குக் காண்பதுண்டு
எல்லையில்லை வாதநோய் நேர்மை தன்னை
இயல்பாக அறிந்திடவே விபரங் கேளே"

"விவரமடா அசதிசன்னி மூளை நோவு

விரிவான மூளையது மிருதுவாகி
இவனிதனில் திடமாகப் போவதாலும்
அப்பனே மூத்திரக் குண்டிக்காய் வியாதியாலும்
தவமுனிவர் தீர்காக்கை மேகரோகம்
தன்மையுள்ள முத்தண்டுக் கொடி வியாதி
அவமிலாப் பரிச நரம்பழுத்தங் கண்டாய்
அணுகுமடா வாதநோய் ஆடும்பாரே"

"அணுகுமடா மாமிசத்தின் வியாதியாலும்
அப்பனே சூதகத்தின் பெருக்கலாலும்
குணமில்லா இரசம் வங்கம் தின்னலாலும்
குடிகெடுத்த வாதமது உண்டாமப்பா"

அகத்தியர் குணவாகடம்(ப.எண்::542)

According to **Pararasa sekaram - vatha roga nithanam,**

Vatha disease is caused by intake of bitter, astringent, pungent taste foods previous day rice, ragi, day time sleep, insomnia, over eating, starvation, excessive sexual desire, anger, anxiety etc.

"தொழில்பெறு கைப்புக்காரந் நல்துவர்த்தல் விஞ்சுகிலுஞ் சோறும்
பழையதாம் வரகு மற்றைப் பைந்தினை யருந்தினாலும்
எழில்பெற பகலுறங்கி இரவினிலுறங்கா தாலும்
மழைநிகர் குழலினாளே வாதங்கோ பிக்குங் காணே"

"காணவே மிகவுண்டாலுங் கருதுபட் டினிவிட்டாலும்
மானனை யார்கண் மோக மறக்கினு மிகுத்திட்டாலும்
ஆணவ மலங்கடம்மை யங்ஙனே விடாத தாலும்
வானுதன் மடநல் லாளே வாதங்கோ பிக்குங் காணே"

பரராசசேகரம் வாதரோக நிதானம்

According to **Theraiyar vahadam,**

Walking during sunlight, excess intake of water, increased sexual intercourse, late time intake of food, eating bitterguard can cause Vatha disease.

"வெய்யிலில் நடக்கையாலும் மிகத் தண்ணீர் குடிக்கை யாலும்
செய்யிழை மகளினாளைச் சேர்ந்தனு பவிக்கையாலும்

பையவே உண்கையாலும் பாகற்காய் தின்கை யாலும்

தையலே வாதரோகஞ் சனிக்குமென் றறிந்து கொள்ளே"

தேரையர் வாகடம்(ப.எண்:78).

According to **thirukural,**

The three humours which increase or decrease caused by disease

"மிகினுங் குறையினும் நோய் செய்யும் நூலோர்

வளி முதலா வெண்ணிய மூன்று"

- திருக்குறள்.

According to **Sabapathy Kaiyedu:-**

Diet which provoked vatha, curd, inappropriate diet, cold exposure, increased sexual desire cause Vatha disease.

"வாரிதரு காய்கிழங்கு வரைவிலா தயிலல் கோழை

முனிதயிர் போன்மிடுக்கு முறையிலா வுணவு கோடல்

குளிர்தரு வளியிற்றேகங் குனிப்புற விலவல் பெண்டிர்

களிதரு மயக்கம் பெற்றோர் கடிசெயல் கருவியாமால்"

-சபாபதி கையேடு.

CLINICAL FEATURES

According to **Yugi vaithya chinthamani -800**

Clinical Features are:

1. Pain in the neck
2. Radiating pain in the upper limbs
3. Heaviness of the body
4. Giddiness
5. Constipation
6. Pain like scorpion sting
7. Tingling sensation and numbness of the upper limbs
8. Burning sensation of eyes.

"கேளுமே கழுத்தின் கீழரைக்கு மேலும்

கெடியான கரமிரண்டு மிகவே நொந்து

வாளுமே சரீரமெல்லாங் கனத்தி ருக்கும்

வாலிபர்க்கு மனங்கண்ணு மயக்கமாகும்
ஏளுமே யிரண்டு கண்ணு மெரிச்ச லுண்டாம்
ஏற்றமாய் மலந்தானு மிறுகிக் காணும்
தேளுமே கொட்டினது போற்கடுக்கும்
செகன வாதத்தினிட தீர்க்கந் தானே"

யூகி வைத்திய சிந்தாமணி 800
ப.எண்.280, பக்கம் எண்.107

According to **Pararasasekaram,**

- ❖ Pain in the neck
- ❖ Radiating pain in the upper limbs
- ❖ Tingling sensation in the upper limbs.

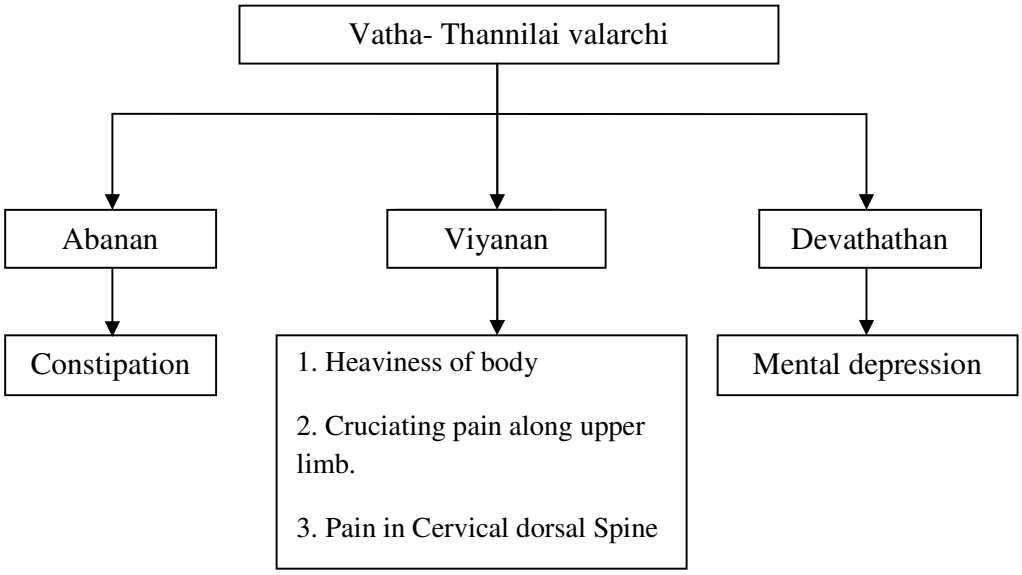
"கண்டதோர் சகன வாதங் கழுத்தின் கீழரைக்கு மேலும்
மிண்டலங் கரமிரண்டு மிகநொந்து கனத்திருக்கும்
மண்டியே திமிர்த்துக் குத்தும் வலி மிகத்துளைவுண்டாகும்
வண்டமர் குழலினாளே மதியினாலுன்னு வாயே".

-பரராசசேகரம்.

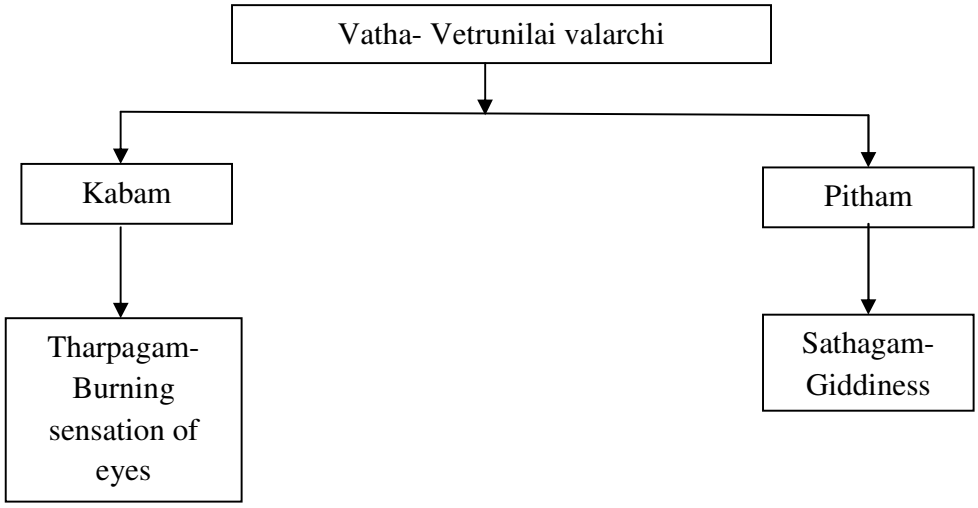
PATHOPHYSIOLOGY OF CEGANA VATHAM

According to siddha aspect

First Degree Derangement:



Second degree derangement:



MUKKUTRA VERUPAADUGAL: (PATHOGENESIS)

"வாதமலாது மேனி கெடாது"

-தேரையர்

According to theraiyar the primary factor which affects first is Vatham, which is accompanied by the vitiation of Pitham and Kapham. The factors which affect the vatha humour are irregular food habits, physical activities and to change in atmospheric temperature according to the severity of illness. Ten vayus, seven udal kattugal and other structures are also affected.

Vatham

In Cegana vatham Abanan is affected, leads to constipation. Viyanan is affected and produces pain in the neck, radiating pain in the upper limbs, restricted movements in the neck and numbness are formed. Samanan is affected and cause disturbance of other vayus. Devathathan is affected and produce sleeplessness.

Pitham

In Cegana vatham, Sathaga pitham is affected. It produces difficulty in performing regular work because pain present in the neck, radiating towards the upper-limbs.

Kapham

In Cegana Vatham, Santhigam is affected and produces pain, stiffness in the neck and rendering the movements difficult. Tharpagam is affected and it produces burning sensation in the eyes.

Seven udal thathugal

In Cegana vatham, Saram affected and cause tiredness of the body. Seneer affected when anaemia present. Oon affected can produce muscle wasting. Kozhuppu affected and casuse restricted neck movements. Enbu affected leads to bone errosion, sclerotic changes and intervertebral disc degeneration in the cervical vertebrae.

PINIYARIMURAIMAI (DIAGNOSIS)

In Siddha aspect the methods of diagnosis is

1. Poriyal Aridhal (Inspection)
2. Pulangalal aridhal (Palpation)
3. Vinadhal (Interrogation)
4. Envagai Thervugal

It is also some other parameters to confirm the diagnosis. They are

1. Mukkutrangal (Three humors)
2. Udalkattugal (Seven body structures)
3. Udal vanmai (body strength)
4. Thinai (land and place)
5. Kaalam (Season)

1. Poriyal Aridhal (Sensory Organs)

PORIGAL(SENSORY ORGANS)	
Mei	Skin
Vai	Tongue
Kan	Eye
Mooku	Nose
Sevi	Ear

2. Pulangalal aridhal (Sensation)

PULANGAL (SENSATION)	
Ooru	Touch
Osai	Sound
Suvai	Taste
Oli	Vision
Natram	Smell

In case of Cegana vatham, pain in the neck, radiating pain in upper limbs, numbness and stiffness of neck which shows that Ooru is affected.

KANMENTHIRIYANGAL (MOTOR ORGANS)

- Kai - Movements of the hands
- Kal - for walking
- Vai - for speaking
- Eruvai - for defecation
- Karuvai - for reproduction

In case of Cegana vatham, constipation present shows that eruvai is affected. When kai is affected i.e. Pain and numbness present both upper limbs.

3. Vinadhal (Interrogation)

The patient interrogates about the patients name, age, sex, occupation, history, residence, family history, socio-economic status, diet, habits, complaints of the illness, past history, treatment history etc.

4. Envagai Thervugal (Eight diagnostic tools)

The unique diagnostic principle in siddha system of medicine is 'Envagai Thervugal". Siddhars describe in many of their literatures that "Envagai Thervugal" in an instrument for a siddha physician to examine and diagnose a patient.

"நாடிப் பரிசம் நா நிறம் மொழி விழி
மலம் மூத்திர மிவை மருத்துவ ராயுதம்"

"மெய்க்குறி நிறத்தொளி விழிநாவிருமலம் கைக்குறி"

- **தேரையர்**
- **நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 270**

According to **Gunavagada Nadi,**

"தரணியுள்ள வியாதிதன்னை யட்டாங் கத்தால்
தானறிய வேண்டுவது யேதோ வென்னில்
திரணிய தோர் நாடிகண்கள் சத்தத் தோடு
தேகத்தினது பரிசம் வருணம் நாக்கு
இரணமல மூத்திர மா மிவைக ளெட்டும்
இதம் படவே தான்பார்த்துக் குறிப்புங் கண்டு"

குணவாகட நாடி (pg.no:136)

According to **Thanvanthiri Vaithiyam,**

"திருமறை முனிவன் கூறும் வாகடச் செய்கை தன்னில்
வருபல வியாதி யான வகையறி குவதே தென்னில்
உருவுறு நாடியாலு மொண்முக மலநீராலும்
தெரிவிழி நாவி னாலுந் தந்தலந் கணத்தி னாலும்"

தன்வந்திரி வைத்தியம் (pg.no:278).

- Nadi - Pulse
- Sparisam - Palpation
- Naa - Tongue
- Niram - Colour
- Mozhi - Speech
- Vizhi - Eyes
- Malam - Faeces
- Moothiram - Urine

Among Envagai Thervugal, the chief parameter for diagnosis is "pulse reading". The siddha physician's fingers resemble a stethoscope.

Pulse can be felt at one inch below the wrist on the radial artery by palpating it with the physician's tip of index, Middle and ring fingers corresponding Vatham, Pitham, Kabham respectively.

The normal ratio of 1: ½: ¼ Vatham: Pitham: Kabham. This ratio is altered can caused by disease.

Naadi may be studied at ten places in the body which are heel, genital organs, abdomen, chest, ear, nose, neck, hand, temporal and vertex.

"தாது முறைகேள் தனித் தகுதிச் சந்தோடு
ஒதுறு காமிய முந்திநெடு மார்பு
காது நெடுமூக்குக் கண்டம் கரம் புருவம்
போதுறு முச்சிபுகழ் பத்தும் பார்த்திடே"

-திருமூலர் நாடி நூல்

- **நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 126.**

But the study of Naadi in hand is best, because the radial artery is located superficially.

"போர்ந்திடவே சகலருக்குங் கரத்தி னாடி
பேசினார் பிரமமுனி பேசினாரே".

- **கண்ணுசாமியம்**
- **நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 126.**

Naadi must be studied in right hand for man and left hand for women.

"நானெனும் புருடர்க் கெல்லாம்
நாடிதான் வலக்கை யாகும்
தேனெனும் மடவார்க் கெல்லாந்
திடம்பெற விடக்கை சித்தே".

- **வை.சா.சங்கிரகம்**

The three humours are formed by the following combinations.

NADI	VAYU	HUMOURS
Edakalai	Abanan	Vatham
Pinkalai	Pranan	Pitham
Suzhumunai	Samanan	Kapham

"கரிமுகனடியை வாழ்த்திக்
கைதனில் நாடி பார்க்கில்,
பெருவிர லங்கு லத்தில்
பிடித்தடி நடுவே தொட்டால்,
ஒருவிர லோடில் வாதம்
உயர்நடு விரலிற் பித்தம்

திருவிரல் மூன்றி லோடில்
சிலேத்தும நாடி தானே''

- அகத்தியர் நாடி

- **நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 130.**

Incases of vatha diseases the following stages of Naadi are seen

a. Vatha Naadi

''வாதமெனும் நாடியது தோன்றில்
சீதமந்தமொடு வயிறு பொருமல் திரட்சி வாய்வு
சீத முறுங் கிராணி மகோதரம் நீராமை
திரள்வாய்வு சூலை வலிகடுப்புத் தீரை''

- சதகநாடி

- **நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 173.**

''காணப்பா வாத மீறில் கால்கைகள் பொருந்தி நோகும்''

- காவிய நாடி

- **நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 175.**

''சொல்லவே வாதமது மீறிற் றானால்,
சோர்வடைந்து வாயுவினால் தேக மெங்கும்
மெல்லவே கைகால்க ளசதி யுண்டாம்
மெய்முடங்கும் நிமிரவொண்ணா திமிரூன்டாகும''

- அகத்தியர்

- **நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 174.**

b. Vatha pitha Nadi

''பொருளான வாதத்தில் பித்தஞ் சேர்ந்து
.....
.....
கருவான தேகமதி லுளைச்சல் சோம்பல்
கைகால் தறிப்பு நாக் கசக்கு மன்னம்''.

- சதக நாடி

- **நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 182.**

''திருத்தமாம் வாதத்தோடே தீங்கொடு பித்தஞ் சேரிற்
பொருத்துகள் தோறும் நொந்து போதவே பிடிக்கும்''.

-நோயின் சாரம்.

c. Vatha Kapha Naadi

''பாங்கான வாதத்தில் சேத்தும நாடிப்
பரிசித்தால் திமிர்மேவு முறைச்ச லாகும்
தீங்கான இருமலுடன் சந்தி தோடம்''

-சதக நாடி

- **நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 183.**

''வாதத்தில் சேத்துமமாகில் வலியோடு வீக்க முண்டாம்''

-அகத்தியர் நாடி

- நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 183

d. Pitha Vatha Naadi

''பித்தத்தில் வாதமாகில் பிடரியுங் காலுங் கையுங்
குத்தது போலேயாகுங் குறுதிமெய் பதறும் பின்னே''

-அகத்தியர் நாடி

- நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 184

e. Pitha Kaba Naadi

''பித்தத்தில் சேத்துமமாகில் பிதற்றும் வாய் குளறு மிக்க
.....
.....
பித்தமு மெடுத்துக் கொட்டிப் பிடரியில் நோவ தாமே''.

-அகத்தியர் நாடி

- நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 185

f. Kapha Vatha Naadi

''கண்டாயோ சிலேற்பனத்தில் வாத நாடி
.....

…….

உறுதிரட்சை வாய்வுவலி சந்தி தோடம்''

-சதக நாடி

- நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 186

In all cegana Vatham Patients, Vatham and Thontha naadi was affected.

2. Sparisam

By sparisam the temperature of the skin, smoothness and roughness, sweat, dryness, hard patches, swelling, abnormal growth, tenderness and nourishment can be felt.

In Cegana vatham there was tenderness in the cervical region for all patients .General body temperature slight warmth, swelling may be present in the nape of the neck and extremities.

3. Naa

Examination of the tongue for its colour, coating, dehydration, dryness, deviation, sensory changes, fissure, ulcer, conditions of the tooth and gums are noted.

''கருதியே வாதரோ கிக்கு நாக்கு

கறுத்திருக்கு முள்ளுபோலவெ டித்திருக்கும்''

யூகிவைத்திய சிந்தாமணி 800

பா.எண். 135, பக்க எண். 50

In Cegana vatham there will be no changes in tongue.

4. Niram (Colour)

Pallor, cyanosis, yellowish and other discolouration of the skin should be noted. The type of body is confirmed by the skin colour whether in black (Vatha), red or yellow (pitha), white (Kaba) and mixed colours (mixed humours).

In Cegana vatham, the skin colour depends upon the patient's body constitution.

5. Mozhi (Speech)

In examination of speech, the higher or low pitched voice, slurred speech, aphasia, dysarthria, nasal speech, hoarseness of voice can be noted.

In Cegana vatham speech may be varying according to changes in the three humours.

6. Vizhi (Eye)

Discolouration of eyes, swelling, lacrimation, ulceration of eye lids, falling of eye lashes, vision, conjunctiva and pupils can be examined..

In Cegana vatham vizhi is not affected.

7. Malam (Faeces)

Nature, quality, colour, odour, froth and abnormal consistency, constipation, diarrhoea, presence of blood, mucus, pus, undigested matter, tenesmus etc can be noted.

In Cegana vatham patients the faeces is black or normal in colour and constipation is present.

"'மலமது கட்டி முட்டி யாயிடும் வாதத்திற்கு"

-புலிப்பாணி.

8. Moothiram (Urine)

The examination of urine is classified into two types. They are

a) Neer Kuri - Physical examination of urine.

b) Nei Kuri - Oil examination.

"அருந்துமாறிரதமும் அவிரோதமதாய்
அகல் அலர்தல் அகாலவூன் தவிர்ந்தழற்
குற்றள வருந்தி உறங்கி வைகறை
ஆடிக்கலசத் தாவியே காது பெய்
தொரு முகூர்த்தக் கலைக்குட்படு நீரின்
நிறக்குறி நெய்குறி நிருமித்தல் கடனே",

- தேரன் நீர்குறி நெய்குறிநூல்

- நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 282

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Neerkuri

The urine analysis is done in siddha system according to five parameters.

"வந்த நீர்க்கரி எடை மணம் நுரை எஞ்சலென்
றைந்தியலுளவவை யனறகுது முறையே"

-தேரன் நீர்க்குறி நெய் குறிநூல்

- நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 282

Niram	-	It indicates the Colour of urine
Manam	-	It indicates the smell of urine
Eadai	-	It indicates specific gravity of Urine
Nurai	-	It indicates froth of urine
Enjal	-	It indicates quantity of Urine

In addition frequency, urgency, hesitancy of micturation, painful burning micturation any sedimentation and any associated discharge can be analysed.

Neikuri

Early morning urine of the patient is collected in a glass container and examined within 1 ½ hour kept in a place where there is no wind which may cause the urine to stir. One drop of gingely oil should be instilled on the center of the urine. The nature of oil drop in the urine is noted.

"நிறக்குறிக் குரைத்த நிருமாண நீரிற்
சிறக்க வெண்ணெய்யோர் சிறுதுளி நடுவிடுத்
தென்றுறத் திறந்தொலி ஏகாதமைத்ததி
னின்றதிவலை போம் நெறிவிழியறிவும்
சென்றது புகலுஞ் செய்தியை யுணரே."

- நோய்நாடல் நோய் முதல்நாடல் திரட்டு பாகம்- I, ப.எண்: 298

If the drop of oil,

- lengthens like a snake it indicates Vatha disease
- spreads like a ring it indicates Pitha disease
- Appears like a pearl, it indicates Kapha disease

UYIR THATHUKKAL (Three humours)

VATHAM

Vatham is classified into ten types. Motor and sensory activities are governed by vatham. Types of vatham are,

- Pranan
- Abanan
- Viyanan
- Udhanan
- Samanan

- Nagan
- Koorman
- Kirukaran
- Devathathan
- Dhananjeyan

முறையாம் பிராணனோ டபானன் வியானன்
மூர்க்கமா முதானனொடு சமான னாகன்
திறமையாங் கூர்மனொடு திரித ரன்றான்
தேவதத்த னோடுதனஞ் சயனுமாகும்''

-யூகி வைத்திய சிந்தாமணி
பா.எண்.38, பக்க எண்.15

1. Piranan

''பலபலவாம் பொசிப்பெல்லாஞ் சீரணம தாக்கும்
முன்ன நாழிகைக்கு முந்நூற்றறுபது சுவாசம்''

-யூகி வைத்திய சிந்தாமணி 800
பா.எண்.39, ப.எண்.15

Piranan regulates the respiratory system and digestive system. It is otherwise termed as 'Uyirkkaal".

2. **Abanan**

''மருக்கவே கீழ்நோக்கி மலம்நீர் தள்ளும்
வாகாக நிறந்தானும் பச்சை யாகும்
அருக்கவே ஆசனத்தைச் சுருக்கி வைக்கும்
அன்னசாரத் தையெல்லாம் சேரவைக்கும்"

-யூகி வைத்திய சிந்தாமணி 800
பா.எண்.41, ப.எண். 16

It controls excreation of stools, sweating, micturation and ejaculation of sperms, menstruation and parturition. It contracts the anus. It is otherwise termed as "Keel Nokkukaal".

3. Udhanan

"பூமான மன்னசாரம் தன்னைத்தான்
பொருந்தவே சமீபித்து நிறுத்தி வைக்கும்

காமனா யெடுப்பித்துக் கலக்கி வைத்தும்
கலக்கியே வகுத்துவைக்கும் வளப்பமாகும்''

யூகி வைத்திய சிந்தா மணி 800

பா.எண்.43, ப.எண். 16

It controls breathing and speech. It is also responsible for the reflex actions like vomiting, hiccup, cough etc. It helps in digestion and assimilation of food.

4. Viyanan

''சிறப்பான வியானனது தோளில் நின்று
திகழெழுபத் தீராயிர நாடியிலுங் சென்று
தறுப்பான சரவசரந் தனிலே நின்று
தானீட்டல் முடக்கல் பண்ணி பரிசங்களறியும்''

யூகி வைத்திய சிந்தாமணி.

பா. எண்.42, ப.எண். 16

It helps in the circulation for energy through the entire nervous system and helps in the movements of various parts of the body. It is otherwise termed as Paravukaal.

5. Samanan

"வாமென்ற வாய்வுகளை மிஞ்சவொட்டாமல்
மடக்கியே சமன்செய்து மருவப் பண்ணும்
தாமென்ற வறுசுவைடையத் தண்ணீ ரன்னம்
சமன் செய்து சரீரமெல்லாம் சாரப் பண்ணும்"

யூகி வைத்திய சிந்தாமணி 800

பா.எண்.44, ப.எண்.17

Samanan is balancing other vayus, six taste, water and food also being balanced and get absorbed

6. Nagan

தெய்வமா நாகனிட சிறப்பைக் கேளாய்
செயலான சகலகலை யாக்கி வைத்து
பைவமாய்ப் பாடி வைக்கும் கண்விழிப் பிக்கும்
பாங்காகச் சிமிளிக்கும் ரோமமசை விக்கும்

யூகி வைத்திய சிந்தாமணி 800

பா.எண்.45, ப.எண்.17

Nagan is responsible for intelligence of an individual, It helps one to learn all arts. It is responsible for blinking, opening of eyes and raising eye brows.

7. Koorman

"நிமைகொட்டுங் கொட்டாவிதானுங் கொள்ளும்
நேராக வாய்மூடும் பெலலுண்டாகும்
கமைக் கொட்டுங் கண்விழிக்கு மூடப் பண்ணும்
காட்சியெல்லாங் காண்பிக்கும் விழி நீரோடும"

யூகி வைத்திய சிந்தாமணி 800.
பா.எண்.48, ப.எண்.17

Koorman is responsible for blinking, yawning, closing mouth and also gives strength. It also helps in closing and opening of eyes, shedding of tears and helps in vision.

8. Kirukaran

"கமைக் கொட்டுங் கிருதராதியின் குணந்தான்
கடுநாவு நாசிதனிற் கசிவுண்டாமே
கசிவுண்டாங் கடும்பசியின் கன்மஞ் செல்லும்
கண்ணியே விருத்தலோடு போதலாகும்
துசிவுண்டாய் தும்மலோ டிருமலுண்டாகும்"

யூகி வைத்திய சிந்தாமணி 800
பா.எண்.47, ப.எண்.18

Kirukaran is responsible for salivation, nasal secretion and good appetite. It also produces cough and sneeze.

9. Devathathan

"குசிவுண் டாம் தேவதத்தன் குணத்தைக் கேளாய்
குடிதலமாய்ச் சோம்பு முறித்திடுதெ லாமே
முறித்திடுதன் மொழிக்கும் போமுயற்சி யாகி
முகுளிதமாய்க் கண்ணினையே யோடி யுலாவித்துத்
தரித்திடுதல் சண்டை கொளற் றாக்கல் பேசல்
சண்டாளக் கோபத்தை உண்டு பண்ணல"

யூகி வைத்திய சிந்தாமணி 800 பா.எண்.47, ப.எண்18.

It produces lazziness and lassitudue while walking. It is responsible for eyeball movements anger, argument and quarrel etc.

10. Dhananjeyan

தரித்திடுநற் றனஞ் செயனைச் சாற்றக் கேளாய்
சாங்கமாய் மூக்கினின்று தடிக்குந் தானே
தடித்துமே உடம்பெல்லாம் வீங்கப் பண்ணும்
தந்திரமாய் கன்னத்திற் சமுத்திரம் போலத்
திடித்துமே சுந்தரமாய் கோட்டமாகித்
திரண்டுமே துஞ்சிய காலந் தனிற்றான்

யூகி வைத்திய சிந்தாமணி 800

பா.எண்.49, ப.எண்.19

It is responsible for swelling all over the body. It produces tinnitus in the ears. It leaves the body blowing up to the cranium on the third day after death

In Ceganavatham the following Vayu's are affected.

VATHAM	FUNCTIONS
1. Viyanan	Neck pain, restricted neck movements, radiating pain in neck and upperlimbs, tingling sensation, numbness and giddiness.
2. Abanan	Constipation
3. Samanan	Indigestion, imbalance in the function of other vayu
4. Devathathan	Sleeplessness

2. PITHAM

PITHAM	FUNCTIONS
1. Analagam	Responsible for digestion
2. Ranjagam	Gives nutrition to blood.
3. Sathagam	Responsible for willful activities.
4. Prasakam	Gives luster to skin
5. Alosakam	Gives strength to eyes

Pitham is formed by the element, fire (thee). It maintains the body heat for normal physiology. Pitham signifies the function of thermogenesis, metabolism, digestion, formation of various secretions and excretions and also given colour to skin and blood. Five types of pithams are In Cegana vatham Analapitham may or may not be affected.

Ranjagam may or may not be affected according to patient haemoglobin level

Sathagam affected and there by difficulty in performing usual works.

3. KABHAM

Kabham is formed by elements of earth and water. It dominates the head and neck region. Kabham represents feeling of cold, heaviness, mucous discharge and saliva. Five forms of Kabham and their functions.

KABHAM	FUNCTIONS
1. Avalambagam	Responsible for respiration
2. Klethagam	It lubricates the blood
3. Pothagam	Responsible for taste sensation
4. Tharpagam	It acts as a coolant for eyes
5. Santhigam	It acts as a coolant for eyes

In Cegana vatham Tharpagam affected produces burning sensation of the eyes

Santhigam affected produces pain in the neck and restricted movements.

UDAL KATTUGAL

Seven udalkattugal and its function are.

UDALKATTUGAL	FUNCTIONS
1. Saram	Stregthens the body and mind
2. Senneer	Preserves brightness, boldness, power and knowledge.
3. Oon	Gives structure and shape to body. Represents the tissues.
4. Kozhuppu	Lubricates the joints
5. Enbu	Construction of body structure
6. Moolai	It is present in the bones and gives strength to them
7. Sukkilam (or) Suronitham	Meant for reproduction and inheritance.

In Cegana vatham affected udalkattugal are

Saaram affected produce tiredness of body. Seneer affected when anaemia present. Oon affected in later stage produce muscle wasting. Kozhuppu affected restricted neck movements enbu affected produces degeneration in Cervical vertebrae and Osteophytic changes.

Thinaigal (Land)

Geographically land is divided into five

"குறிஞ்சி நிலமே வாதமாங் கூறும் பாலை பித்தமதாஞ்
செறிந்த மருதஞ் சிலேத்மமதாஞ் சிலேத்ம வாத முல்லையதாம்
நிறைந்த நெய்தல் வாதபித்தம் நிலங்களதனை மயக்காய்
லுறைத்த வியாதி கலந்திருக்கு முபாய மறிந்து செய்வீரே"

- தன்வந்திரி நாடி

Vatham provokes in kurinji, mullai and neithal land.

1. Kurinji (Hills area)

1. Mountain and its sourroundings
2. Common in kabham related disease and liver disease.

2. Mullai (Sylvantract)

1. Forest and its surroundings
2. Common in pitham and vatham releated disease

3. Marutham (Agricultural land)

1. Fields and its surroundings
2. Ideal place for healthy living

4. Neithal (Coastal area)

1. Ocean, Sea and its surroundings.
2. Common in vatham releated disease and liver disease.

5. Paalai (Desert)

1. Desert and its surroundings
2. Vatham pitham and Kabham releated disease are common

PARUVAKALANGAL:

According to alteration of kaalam thannilai valarchi vetrunilai Valarchi the disease can be diagnosed

S.No	Kaalam	Kuttram	State of kuttram
1	Kaar kaalam (Avani- puratassi) Aug 16-Oct 15	Vatham Pitham	Vetrunilai Valarchi Thannilai valarchi
2	Koothir kaalam (Iypassi-karthigai) Oct 16-Dec 15	Vatham Pitham	Thannilai Valarchi Vetrunilai valarchi
3	Munpani Kaalam (Markazhi - Thai) Dec 16- Feb 15	Pitham	Thannilai Adaithal
4	Pinpani Kaalam (Maasi - panguni) Feb 16-Apr 15	Kabham	Thanilai Valarchi
5	Elavenil Kaalam (Chithirai - Vaikasi)	Kabham	Vetrunilai Valarchi
6	Mudhuvenil Kaalam (Aani- Aadi) June 16-Aug 15	Vatham	Thannilai Valarchi Thanilai adaithal

The final diagnosis is confirmed by summerising all the clinical findings observed by the above methods.

NOI KANIPPU VIVADHAM (DIFFERENTIAL DIAGNOSIS)

Some other types of vatha disease the symptoms of Ceganavatham are mentioned careful and clear history taking and examination will reveal diagnosis.

1. PANIKAMBA VATHAM

Clinical features are

1. Anorexia
2. Tingling sensation and numbness of upper limbs
3. Tremor of upper limbs
4. Sleeplessness and dryness all over the body.

மார்க்கமாய் வாயுவுவாய் மெய்நி றைந்து
வயிறுதனிற் பசியிலா தூணு மற்று
நார்க்கமாய் ஞாலத்து நடக்கை யற்று
நடுக்கமாங் கையிரண்டுந் திமிரு முண்டாம்
ஊர்க்கமா யுறக்கமில்லா துணர்ச்சி யற்று
உதறியே சரீரமெங்கு முலர்ந்து காணும்
பார்க்கமாய் வாய்விட்டு அலத்த லாகும்
பாணிக்கம்ப வாதத்தின் பாங்கு தானே

யூகி வைத்திய சிந்தாமணி 800
பா.எண்.266, ப.எண். 101

2. KANDA KIRAGA VATHAM:-

The Clinical features are**,**

1. Pain in the throat, chest and occipital bone.
2. Anorexia
3. Breathing through month
4. Backache
5. Perfuse sweating on face
6. Loss of appetite

“வகையான குரல்தனைப் பற்றி நொந்து
மாரோடு பிடரியினில் வலியுண்டாகி
நுகரான சரீரமெல்லாம் நொந்த ழற்றி
துணுக்கமாய்ச் சுவாசமது புறப்ப டாமல்
முகையான நாவாதே மூச்சு மாறி
முகத்திலே வியர்வையாகி விலாநோ வுண்டாம்

பகையான வன்னத்தைப் பருகொட்டாது
பரிகண்ட கிரகத்தின் பண்பு தானே”

யூகி வைத்திய சிந்தாமணி 800
பா.எண்.303, ப.எண். 116

3. SIRAKAMBA VATHAM

The Clinical features are,

1. Stiffness of neck
2. Deafness
3. Yawning
4. Over Sleeping
5. Titubation in the head
6. Difficulty in using upper and lower limbs.

“தம்பமாய் முதிர்கண்ட நரம்பிற் புக்கித்
தலையொடு சரீரமெல்லாந் தாக்கிப் புக்கும்
கம்பமாங் காதிரண்டும் மிகவுங் கேளா
கையோடு காலிரண்டும் வசக் கேடாகும்
நிம்பமாய் நினைவுதான் கலங்கிக் காணும்
நெடுமூச்சுங் கொட்டாவிநித் திரையு மாகும்
சிம்பமாய்த் தலைநடுக்கிக் கணப்பு முண்டாம்
சிரக்கம்ப வாதமென்ற செப்பலாமே”

யூகி வைத்திய சிந்தாமணி 800
பா.எண்.300, ப.எண். 114

4. KUMBA VATHAM

The Clinical features are,

1. Burning pain in shoulder and upper limbs
2. Burning sensation in the cheek and eyes
3. Twitching over the scalp
4. Pain in the lower abdomen
5. Glossitis

நவிலவே தோள்மீதுங் கரத்தின் மீதும்
நலிந்து மெத்தவாகியே நோவுண்டாகும்
கவிலவே கன்னமொடு நயனந் தானும்

கடுத்துமே விருவிருப்பு மெரிவுங் கானும்
துவிலவே துடிப்பாகுஞ் சிரசு தன்னிற்
சுழற்றியே நாபிக்கீழ் வலியு முண்டாம்
அவிலவே யடிநாக்கி லழன்று காணும்
அலருமே வருகும்ப வாதந் தானே

யூகி வைத்திய சிந்தாணமி 800

பா.எண்.264, ப.எண். 100

5. PEIVATHAM

The Clinical features are

1. Pain and swelling in neck, upper and lower limbs
2. Weakness of hand muscles,
3. Vomiting
4. Giddiness
5. Swelling all over the body

பெற்றியாம் பெருமையாங் காலுங் கையும்
பெருவயிறு நெஞ்சோடு விரலு மூக்கும்
எற்றியா மெறிகழுத்து மெங்கும் பற்றி
ஏக்கமாய் நொந்துவுடம் பெங்கும் வீங்கி
உற்றியா மூணவேநி மிர்த்தெடுத்து
உறுதியாய் பிடிக்கவு மொணாமலாகும்
சத்தியாய் வாய்கசந்து மயக்க மாகும்
தரித்திட வொண்ணாது பேய் வாதந் தானே

யூகி வைத்திய சிந்தாமணி 800

பா.எண்.276, ப.எண். 105

NOI NEEKAM (TREATMENT)

In siddha system the main aim of treatment is not only the removal of physical illness, but also for the mental illness. Treatment is considered with prevention and improvement of the general body condition also.

This is said as follows:-

1. Kaappu - Prevention
2. Neekam - Treatment
3. Niraivu - Restoration

The general etiological factors for constitutional discomfort are said to be improper diet, mental and physical activation. While treating the disease, the following principles must be noted.

"நோய்நாடி நோய்முதல் நாடி அது தணிக்கும்
வாய்நாடி வாய்ப்பச் செயல்"
"உற்றானளவும் பிணியளவுங் காலமுங்
கற்றான் கருதிச் செயல்" **- திருக்குறள்**

So, it is essential to know the disease the etiological factor, the nature of the patient, the severity of illness, the seasons and the time of the occurrence of the disease.

KAAPPU (PREVENTION)

To Prevent Cegana Vatham

1. Avoid intake of excess sour, astringent and bitter taste foods.
2. Sleep without pillows
3. Avoid holding neck in one position for a long period.
4. Should follow the Noi Anugavidhi

Noi Neekam (Treatment)

Noi Neekam is based on,

1. To bring the three dhosas in equilbrium
2. Treatment of the disease by internal medicine
3. Diet and advice
4. Thokkanam
5. Yoga
6. Kanma nevarthi

Bring the Dhosa in Equilibrium

"முப்பிணி மருவி முறிவு கொள் குறிப்பை
தப்பாதறியும் தன்மையும் வாதபித்த வையப்
பிரிவையு மனைவதாம்
ஏறி யிறங்கி இணைந்து கலந்து
மாறி மாறி வருஞ் செய்கையாற் பிணி
நேர்மையறிந்து நீட்டு மருந்தே

சீரியதாமெனச் செப்புவர் சித்தரே"

The Siddha system of medicine is based on the mukkutra theory. The treatment is mainly aimed to bring down the three dhosas to its equilibrium state and thereby restoring the physiological condition of various thathu

TREATMENT

Vitiation of vatham is the prime factor of Cegana Vatham. Purgation corrects the vitiated vatham. This can be explained as.

"விரேசனத்தால் வாதம் தாழும்
அறிந்திடும் வாதம் அடங்கு மலத்தினில்"

சித்த மருத்துவாங்க சுருக்கம்.

INTERNAL MEDICINE

Ingi Chooranam - 1gm (twice daily after food with warm water).

DIET

Pathiyam

"பத்தியத்தா லுண்டாகும் பண்டிதற்குப் பேராண்மை
பத்தியத்தா லுண்டாகும் பாண்டிதங்கள் - பத்தியத்தை
விட்டாத பிணிவகைகள் வித்தரிக்கும் விட்டிடவை
விட்டாற் பறக்கும் வினை"

தேரையர் வெண்பா (pg.no:342)

Above text explains that the treatment may be very effective by following proper diet regimen. If neglect, it aggravates the disease.

Vatha Roga Pathiyam

"புளிதுவர் விஞ்சுங் கறியாற் பூரிக்கும் வாதம்"

பதார்த்த குண சிந்தாமணி

Sour, astringent, increase vatham. So Cegana Vatham Patients were advised to avoid sour and astringent taste foods.

Vatha rogari Vasthukal:-

Root of water lily (pontederia veginalis) costus root (costus speciosus), honey colleted on branches of trees, black pepper (piper nigrum) gingely oil, asofoetida, leaves of clerodendron phlomoides, castor oil, black gram etc, cure Vatha disease.

"செங்கழுநீர் கோட்டந்தேன் மிளகு நல்லெண்ணெய்
தங்கு பெருங்காயந் தழுதாழை - யெங்கெங்குங்
கூட்டு சிறு முத்துநெய் தோதிலுழுந்திவைகள்
வாட்டு மணிலத்தை மதி"

பதார்த்த குண சிந்தாமணி (pg.no:375)

Exercise advised for Cegana Vatham

I. Neck Bending

a. Starting Position

- Sit with both legs straight.
- Place the palms on the floor by the side of the buttocks.
- Keep the back, neck and head straight.
- Close the eyes
- This is Dandasana.

b. Practice

Stage - I (Forward - Back ward movement)

- Slowly move the head forward and try to touch the chin to chest.
- Then move the head as far back as comfortable.
- Try to feel the stretch of the muscles in front and back of the neck and the loosening of the spine in the neck.
- Practice 10 times.
- Inhale on the backward movement and exhale on the forward movement

Stage - II (Bending to Right and left)

- Close the eyes and face directly forward
- Slowly bend the head to the right and try to touch the right ear to the right shoulder.
- Bring the head back to the normal position.
- Then bend to the left side and try to touch the left ear to the left shoulder in the same fashion. Lift the head to the centre.

- This is one round practice 10 rounds
- Inhale on the upward movement and exhale on the downward movement.

Stage - III (Turning the head to Right and left)

- Keep the head upright and eyes closed.
- Gently turn the head to the right so that the chain is in line with the right shoulder.
- Slowly turn the head to the left through the centre till the chin is in line with the left shoulder. Bring the head to centre.
- This is one round practice 10 rounds.
- Inhale while turning to the front. Exhale while turning to sides.

C. Note (For all the three stages)

- Move the head as far as comfortable. Do not strain.
- Keep the shoulders relaxed and unmoved.
- Feel the release of tension in the neck muscles and the shoulder muscles.

Benefits

- These exercise reduced neck pain, strengthen of the neck and shoulder muscles.

2. Neck Rotation

a. Starting Position

Sit in Dandasana

b. Practice

Stage - I (Half Rotation)

- Relax the head bending forward.
- Bring the right ear to the right shoulder in a circular way.
- Bring the left ear to the left shoulder in a Circular bending the head forward.
- Now relax the head forward again in a circular way and finally lift the head to normal position. This is one round.
- Repeat 10 rounds clock wise and 10 rounds anti - clock wise with breathing.

Stage II (Full rotation)

- Relax the head forward trying to touch the chin to the chest.
- Slowly rotate the head as large a circle as possible, keeping the chin tucked in.

b) MODERN ASPECT

THE VERTEBRAL COLUMN

The vertebral column is the central bony pillar of the body. It supports the skull, pectoral girdle, upper link and thoracic cage and by way of the pelvic girdle, transmits body weight to the lower limbs. Within its cavity lie the spinal cord, the roots of the spinal nerves and the covering meninges, to which the vertebral column gives great protection.

COMPOSITION OF THE VERTEBRAL COLUMN

The vertebral column is composed of 33 vertebrae-7 cervical, 12 thoracic, 5 lumbar, 5 sacral (fused to form the sacram) and 4 coccygeal (the lower 3 are commonly fused). Because it is segmented and made up of vertebrae, joints and pads of fibrocartilage called intervertebral discs. It is flexible in structure. The intervertebral discs form about one fourth the length of the column.

CERVICAL VERTEBRA

Typical cervical vertebrae:

They are third, fourth, fifth and sixth.

Atypical cervical vertebrae:

They are first, second and seventh.

CHARACTERISTICS OF TYPICAL CERVICAL VERTEBRAE

Body

i. Smallest of all the vertebrae.
ii. Transverse diameter is greater than the anteroposterior diameter.
iii. On each side of the body of the superior surface presents raised lips.
iv. On each side of the body of the interior surface is beveled.
v. Anterior and posterior surface are flat.
vi. Lower part of the anterior surface projects inferiorly.

Vertebral foramen

It is large and triangular in shape.

Pedicles

i. Directed backwards and laterally.
ii. It is attached midway between upper and lower surfaces.
iii. Superior and vertebral notches are equally depth.

Lamina

i. It is longer, narrower and thinner than the other regions.
ii. It is directed backwards and medially from the pedicles.

Spinous process

i. It is short and bifid.
ii. Spinous process is divided into two tubercles of unequal size.

Articular processes

i. They projects laterally from the junction of the pedicle and lamina.
ii. They form two articular pillars.
iii. The superior articular facet is flat and looks backwards and upwards.
iv. The inferior articular facet is looks forwards and downwards.

Transverse process

i. It is directed laterally and slightly forwards.
ii. Each transverse process presents an opening called foramen transversarium transmits following structures (except seventh)
    a) Vertebral artery
    b) Vertebral vein
    c) A branch from the inferior cervical sympathetic ganglion.
iii. Foramen transversarium presents anterior and posterior roots.
iv. The anterior and posterior roots are joined together by the costotransverse bar.
v. The anterior and posterior roots are ends laterally into tubercles called anterior and posterior tubercles respectively.

CHARACTERISTICS OF THE ATYPICAL CERVICAL VERTEBRAE

First cervical vertebra

Identifications

1. It is also called atlas because it supports the globe of the head.
2. It is ring like.
3. It has no body no spine.
4. It presents two lateral masses.
5. Lateral masses are connected anteriorly by the anterior arch and posteriorly by the posterior arch.
6. Anterior arch presents a tubercle opposite the median plane on its anterior surface, called anterior tubercle.
7. Posterior surface of the anterior arch presents a facet for articulation with the dense of the axis.
8. Immediately behind the lateral mass on the upper surface of the posterior arch present a shallow groove.
9. Posterior aspects of the posterior arch present posterior tubercle.
10. Presents kidney shaped deeply concave articular facet on the superior part of the lateral mass, which articulates with the occipital condyle to form the atlanto-occipital joint.
11. Presents another articular facet on the inferior part of the lateral mass, which is circular and flat for articulation with the superior facet of the second cervical vertebra.
12. Transverse process is usually long (except seventh).

Second cervical vertebra

Identification

1. It is also called axis.
2. Presents a tooth like process called dens or odontold process, which projects upwards from he superior surface of the body.

3. On each side of the dens presents a large oval facet on the upper surface of the body, which articulates with the inferior facet of the lateral mass of the atlas.
4. Lamina is very thick and strong.
5. Spinous process is thick.
6. Pedicles are too short.
7. Transverse process short and ends into a tubercle.
8. Superior vertebral notches are absent.
9. Interior vertebral notches are too deep.

Seventh cervical vertebra

Identification

1. Spinous process is long horizontal prominent and not bifided (it forms a prominent subcutaneous bony landmark called vertebral prominence.
2. Posterior root of the transverse process is much stouter.
3. Foramina transversarium is small and may be double transmit only accessory vertebral vein.
4. Distances between the two transverse process is much longer than any other cervical vertebra.

This is most easily examined with the subject prone and the forehead supported on the hands with the chin slightly tucked in, even though the central area (C_3-C_5) may be quite difficult to distinguish. There are, however, two unmistakable landmarks, these being the spines of the second and seventh cervical vertebrae.

First find the external occipital protuberance on the occipital bone; this should be almost directly below the most prominent part of the back of the skull. Approximately 2 cm below this, the large prominence of the spine of C_2 will be encountered. There is a deep hollow between the two landmarks because C_1 has no spinous process, just a relatively small tubercle. Moving down the neck some 10 cm, the long spinous process of C_7 (the vertebra prominens), is the next large prominence to be encountered. Usually two prominences can be felt in this region as the spinous process of T_1 is just below that of C_7. Occasionally, a third prominence, the spinous process of C_6, can also be felt. If there is any doubt as to the differential identification of C_7, the subject

should be asked to raise the forehead from the hands, in which case te spines of C_7 and T_1 remain under the fingers, whilst that of C_6 moves forwards and may not be palbable. If the cervical spine is flexed, the spinous processes may be a little easler to identify, but this depends, to a large extent, on the tautness of the ligamentum nuchae.

Deep palpation lateral to the muscle mass, on either side of the spinous processes, reveals another line of bony projections running up the side of the vertebrae. These are the tips of the transverse proesses. They appear blunted because the fingers are feeling both anterior and posterior tubercles at the same time. Near the top of the neck a series of cord-like structure can be felt running downwards and laterally from the tubercles, these are the scalene muscles. The large transverse process of C_1 can easily be felt below the mastoid process of the skull. At the lower end of the cervical region, the tubercles become more pronounced with the seventh nearly always projecting further laterally than the rest. It may also be quite tender to the touch. In some subjects the costal element of C_7 may be longer than normal and also slightly mobile giving the appearance of a rudimentary rib; consequently it is termed a 'cervical rib'. Occasionally, this may lead to pressure on the eighth cervical nerve root leading to neurological. Signs and symptoms in the area of its distribution.

JOINTS:

The joints of the cervical spine can be divided in to two groups-those that are present throughout the vertebral column, and those unique to the cervical spine.

Present throughout vertebral column

There are two different joints present throughout the vertebral column:

Between the vertebral bodies and adjacent vertebral bodies are joined by intervertebral discs, made of fibrocartilage. This is a type of cartilaginous joints, known as a symphysis.

Between vertebral arches- formed by the articulation of superior and inferior articular processes from adjacent vertebrae. It is a synovial type joints.

Unique to cervical spine

The atlanto-axial and atlanto-occipital joints are unique to the cervical spine. The atlanto-axial joints are formed by the articulation between the atlas and the axis.

There are two lateral atlanto-axial joints which are formed by the articulation between the inferior facets of the lateral masses of C_1 and the superior facets of C_2. These are plane type synovial joints.

The medial atlanto-axial joints are formed by the articulation of the dens of C_2 with the articular facet of C_1. This is a pivot type synovial joint.

The atlanto-occipital joints consist of an articulation between the spine and the cranium. They occur between the superior facets of the lateral masses of the atlas and the occipital condyles at the base of the cranium. These are condyloid type synovial joints, and permit flexion at the head, i.e. nodding.

LIGAMENTS:

There are six major ligaments to consider in the cervical spine. The majority of these ligaments are present throughout the entire vertebral column.

Present throughout vertebral column

- **Anterior and posterior longitudinal ligaments:**
  Long ligaments that run the length of the vertebral column, covering the vertebral bodies and intervertebral discs.
- **Ligamentum flavum:**
  Connects the laminae of adjacent vertebrae.
- **Interspinous ligament:**
  Connect the spinous process of adjacent vertebrae.

Unique to cervical spine

- **Nuchal ligament:**

  A continuation of the supraspinous ligament. It attaches to the tips of the spinous processes from C_1–C_7 and also provides the proximal attachment for the rhomboids and trapezius.

- **Transverse ligament of the atlas:**

  In this region movements are described as head on neck at the atlanto-occipital joints and movements of the neck at the joints of the cervical spine. Frequently the same muscles move both of these regions.

ARTERIAL SUPPLY OF CERVICAL VERTEBRAE:

The basilar artery is the main blood supply to the brain stem and connects the circle of Willis to potentially supply the rest of the brain if there is compromise to one of the carotids. At each cervical level, the vertebral artery sends branches to the surrounding musculature via the anterior spinal arteries.

VENOUS DRAINAGE:

The deep cervical vein (posterior vertebral or posterior deep cervical vein) accompanies its artery between the semispinales capitis and colli.

It begins in the suboccpital region by communicating branches from the occipital vein and by small veins from the deep muscle at the back of the neck.

It receives tributaries from the plexuses around the spinous processes of the cervical vertebrae, and terminates in the lower part of the vertebral vein.

Movements are produced by the following muscles:

MOVEMENTS	MUSCLES	NERVE SUPPLY
Flexion	Longus colli Sternocleidomastoid Longus capitis Rectus capitis anterior	Cervical ventral rami C2-C6 Accessory ventral rami of cervical spinal nerves C2,C,C4. Cervical ventral ramiC1-C3. C1 ventral ramus
Extension	Trapezius Erecter spinae Rectus capitis posterior major and minor Oblique capitis superior	Accessory nerve Dorsal rami Dorsal rami C1 C1- dorsal ramus
Lateral flexion and Rotation	Scalene Sternocleidomastoid Rectus capitis Splenius Longus colli Levator scapulae Longismus obliues capitis Superior and inferior	Cervical ventral rami C3-C8 Accessory, ventral rami of cervical spinal nervesC2,C3,C4 C1 ventral ramus Cervical dorsal ramus Cervical ventral rami C3-C8 Cervical ventral rami C3,C4,C5 C1 dorsal ramus

CERVICAL SPONDYLOSIS

DEFINITION:

Cervical spondylosis is defined as arthrosis of the posterior intervertebral joints in the cervical vertebrae. It is common in the middle aged and in the elderly particularly in those whose occupation involves a posture of prolonged neck flexion.

EPIDEMIOLOGY:

UNITED STATES

Cervical spondylosis is a common condition that is estimated to account for 2% of all hospital admissions. It is the most frequent cause of spinal cord dysfunction in patients older than 55 years. On the basis of radiologic findings, 90% of men older than 50 years and 90% of women older than 60 years have evidence of degenerative changes in the cervical spine.

INTERNATIONAL

Investigators in a study involving Ghanaians reported, “out of 225 patients who carried loads on their head, 143 (63.6%) had cervical spondylosis and of the 80 people who did not carry load on their head, 29 (36%) had cervical spondylosis”.

Race

No apparent correlation between race and cervical spondylosis exists.

Sex

Both sexes are affected equally. Cervical spondylosis usually starts earlier in men than in women.

Age

Symptoms of cervical spondylosis may appear in persons as young as 30 years but are found most commonly in individuals aged 40-60 years. Radiologic spondylotic changes increase with patient age; 70% of asymptomatic persons older than 70 years have some form of degenerative changes in the cervical spine.

When cervical spondylosis develops in a young individual, it is almost always secondary to a predisposing abnormality in one of the joints between the cervical vertebrae, probably as a result of previous mild trauma.

AEITIOLOGY:

a) Degenerative causes

There are primary and secondary

Primary –sensibility

Genetic factors

Metabolic factors

Manual labour

Secondary- osteoarthritis

Rheumatoid arthritis

Metastatic carcinoma

TB spine

b) Trauma :whiplash injury

Road traffic accident

Athletic injury

c) Hereditary factors

Congenital narrowing of the cervical spinal canal

Segmental defects – hemivertebrae, fused vertebrae

d) Acquired narrowing of cervical spinal canal due to

Osteophytes

Ossified posterior longitudinal ligament

Facet joint hypertrophy (results faraminal stenosis and comprasion of root of radicular artery)

Hypertrophied ligamentum flavum (compress the cord during extention)

PATHOGENESIS:

In the early stage it is localized to two or three cervical vertebral segments, due to degeneration of the intervertebral disc with narrowing and osteophyte formation at the anterior and posterior margins. The osteophytes cause narrowing of the intervertebral foramen resulting in nerve root irritation. In the later stage there is a generalized degenerative arthrosis of the posterior intervertebral joints of the whole cervical spine. In the extreme form there is compression of the spinal cord with myelopathy and symptoms of cord lesion.

CLINICAL FEATURES

The patient presents with chronic pain in the neck with or without radiating pain down the arm. There will be diffuse tendereness in the cervical spine with limitation of all movements. The neurological signs will be confined to one or two roots.

COMMON CLINICAL SYNDROME ASSOCIATED WITH CERVICAL SPONDYLOSIS INCLUDES THE FOLLOWING:

i) Cervical Radiculopathy:

Cervical radiculopathy is the clinical description of pain and/ or neurological symptoms resulting from any type of condition that irritates a nerve in the cervical spine (neck).

When any nerve root in the cervical spine is irritated through compression or inflammation, symptoms of pain, tingling, numbness and/or weakness can radiate anywhere along that nerve's pathway in to the shoulder, arm, and/or hand.

ii) Cervical Myeloradiculopathy :

Cervical myelopathy refers to compression on the cervical spinal cord. Any space occupying lesion within the cervical spine with the potential to compress the spinal cord can cause cervical myelopathy.

It is predominantly due to pressure on the anterior spinal cord with ischaemia as a result of deformation of the cord by anterior herniated disc, spondylatic spurs, an ossified posterior longitudinal ligment or spinal stenosis.

THE SITE OF SENSORY DISTURBANCES WITH INDIVIDUAL ROOT

Nerve root	Dislevel	Symptoms
C3	C2-C3	Pain and numbness in the back of the neck mastoid process, and pinna of ear.
C4	C3-C4	Pain and numbness in the back of the neck, levator scapulae and anterior chest.
C5	C4-C5	Pain in the neck,Tip of the shoulder, anterior arm, numbness over middle of the body, deltoid muscle.
C6	C5-C6	Pain in the neck, shoulder, medial border of the scapula, lateral arm, dorsal forearm, numbness in tip of thumb or on dorsum of hand over first dorsal interosseus muscle.
C7	C6-C7	Pain in the neck, shoulder, medial border of scapula, lateral arm, dorsal forearm, sensory change in index and middle finger.
C8	C7-T1	Pain in the neck, medial border of scapula,medial aspects of arm and forearm. Sensory change in the ring and little fingers.

THE MOTOR SYMPTOMS AND SIGNS
(INCLUDING REFLEXES)

Nerve Root	Disc level	Weakness-Reflex change
C3	C2-C3	Not readily detectable weakness or reflex change except by EMG.
C4	C3-C4	Not readily detectable weakness or reflex change except by EMG.

C5	C4-C5	Weakness of extension of arm and shoulder particularly above 90^{o},wasting of deltoid muscle ,no reflex change.
C6	C5-C6	Weakness of biceps muscle, diminished triceps reflex.
C7	C6-C7	Weakness of triceps muscle, diminished triceps reflex.
C8	C7-T1	Weakness of triceps and small muscles of hand.No reflex change.

PHYSICAL EXAMINATION

1. **Spurling sign**

   Radicular pain is exacerbated by extension and lateral bending of the neck toward the side of the lesion. Which result in further foraminal compromise.

2. **Lhermitte's sign**

   The generalized electric shock sensation is associated with neck extension.

3. **Hoffman sign**

   Reflex contraction of the thumb and index finger occurs in response to nipping of the middle finger. This sign is evidence of an upper motor neuron lesion. A Hoffman sign may be insignificant if present bilaterally.

4. **Axial compression test**

   Pain that is elicited by axial compression.

5. **Shoulder abduction test**

   Relief of cervical radiculopathy by abduction.

6. **Valsalva manouevre**

   Increase the radicular symptoms.

RADIOLOGICAL FEATURES :

Radiologically there will be narrowing of C5-C6 or C6-C7 disc space with osteophytic changes. There may be narrowing of joint space of the posterior intervertebral joints. There will be narrowing of the intervertebral foramen which is well demonstrated in oblique views of the cervical spine.

Complications

1. Pseudo arthrosis
2. Graft displacement.
3. Neurological injury
4. Spastic gait
5. Quadriplegia
6. **Injury to other structures**.
    - ❖ Recurrent laryngeal Nerve.
    - ❖ Superior laryngeal Nerve.

DIFFERENTIAL DIAGNOSIS:

1. Compression of cord or root (TB, Secondaries or neurofibromas)
2. Carcinomatous infiltration or radiotherapy
3. Peripheral nerve lesion (distal ulnar or median nerve)
4. Motor neuron disease.
5. Syringomyelia.
6. Multiple sclerosis.

INVESTIGATION:

1. **Plain – X ray of cervical spine antero posterior and lateral views.**
    - Intervertebral disc space narrowing
    - Osteophytic changes
    - Altered Lordosis
    - Degeneration in facet and vertebral joints.
    - Foraminal stenosis, central stenosis.
    - Sclerosis in the vertebrae.
2. **CT – SCAN (Computerised Tomography)**
    - Confirms degenerative changes
    - May demonstrate posterior osteophytes and disc herniation.
3. **CT – MYELOGRAPHY:**

    Useful for localisation of cord compression

4. **MRI - (MAGNETIC RESONANCE IMAGING:**

To asses cervical canal diameter, to find out severity of the compression

5. **EXAMINATION OF CSF**

Very high protein.

MANAGEMENT:

The treatment includes physiotherapy with short-wave diathermy to the neck, intermittent cervical traction and analgesics. When the pain is control, the patient is taught to shoulder bracing and neck exercises. In the acute painful stage, a cervical collar is prescribed. In the cases with cervical radiculopathy or myelopathy surgery will be indicated.

CHAPTER-IV

MATERIALS AND METHODS

The Clinical study on Cegana vatham was carried out in the post graduate department of Pothu Maruthuvam, Govt Siddha Medical College, Palayamkottai. In this study among 40 patients, 20 patients were treated as Inpatients and the other 20 as Outpatients. After discharged the patients were also followed as out patients.

SELECTION OF THE PATIENTS

INCLUSION CRITERIA

- Age: 20 – 60 years
- Sex: Both Male and Female
- Willing to participate in trial and signing consent form by fulfilling the conditions of Proforma
- Neck pain radiating to upper limb with or without numbness, giddiness and neck stiffness
- Restriction neck movement
- Willing for doing laboratory investigations and X-Ray imaging.
- The neck disability index score should be equal or greater than 40%.

EXCLUSION CRITERIA

- Cervical rib
- Trauma
- Systemic hypertension
- Diabetes mellitus
- Chronic kidney disease
- Tuberculosis in spine
- Ischaemic heart diseases
- Pregnancy
- Lactating mother
- Neoplasms

- Patients with any other chronic systemic illness
- Congenital spinal anomalies
- Malignancy – secondaries

The detailed history was taken from the patient about:

Occupation

Socioeconomic status

Psychological condition

Diet and other habits

Trauma

Diagnosis:

The diagnosis was made by following siddha diagnostic methods are Nilam, Kaalam, Poriyalaridhal, Pulanalarithal, Vinaadhal, Mukkutra nilaigal, Udal Thathukal Nilai and Envagai Thervugal, and the diagnosis **Cegana Vatham** was obtained which correlates with modern term cervical spondylosis. It is confirmed by the Radiological examinations (x-ray cervical spine Ap & Lat View).

Assesment of result:

The results were assessed on the basis of symptomatic relief and Neck disability index scale.

Neck Disability Index:

- This questionnaire has been designed to give us information as to how your neck pain has affected your ability to manage in everyday life. Please answer every section and **mark in each section only the one box that applies to you**.

Section 1: Pain Intensity

- I have no pain at the moment
- The pain is very mild at the moment
- The pain is moderate at the moment
- The pain is fairly severe at the moment
- The pain is very severe at the moment
- The pain is the worst imaginable at the moment

Section 2: Personal Care (Washing, Dressing, etc.)

- I can look after myself normally without causing extra pain
- I can look after myself normally but it causes extra pain
- It is painful to look after myself and I am slow and careful
- I need some help but can manage most of my personal care
- I need help every day in most aspects of self care
- I do not get dressed, I wash with difficulty and stay in bed

Section 3: Lifting

- I can lift heavy weights without extra pain
- I can lift heavy weights but it gives extra pain
- Pain prevents me lifting heavy weights off the floor, but I can manage if they are conveniently placed, for example on a table
- Pain prevents me from lifting heavy weights but I can manage light to medium weights if they are conveniently positioned
- I can only lift very light weights
- I cannot lift or carry anything

Section 4: Reading

- I can read as much as I want to with no pain in my neck
- I can read as much as I want to with slight pain in my neck
- I can read as much as I want with moderate pain in my neck
- I can't read as much as I want because of moderate pain in my neck
- I can hardly read at all because of severe pain in my neck
- I cannot read at all

Section 5: Headaches

- I have no headaches at all
- I have slight headaches, which come infrequently
- I have moderate headaches, which come infrequently
- I have moderate headaches, which come frequently
- I have severe headaches, which come frequently
- I have headaches almost all the time

Section 6: Concentration

- I can concentrate fully when I want to with no difficulty
- I can concentrate fully when I want to with slight difficulty
- I have a fair degree of difficulty in concentrating when I want to
- I have a lot of difficulty in concentrating when I want to
- I have a great deal of difficulty in concentrating when I want to
- I cannot concentrate at all

Section 7: Work

- I can do as much work as I want to
- I can only do my usual work, but no more
- I can do most of my usual work, but no more
- I cannot do my usual work
- I can hardly do any work at all
- I can't do any work at all

Section 8: Driving

- I can drive my car without any neck pain
- I can drive my car as long as I want with slight pain in my neck
- I can drive my car as long as I want with moderate pain in my neck
- I can't drive my car as long as I want because of moderate pain in my neck
- I can hardly drive at all because of severe pain in my neck
- I can't drive my car at all

Section 9: Sleeping

- I have no trouble sleeping
- My sleep is slightly disturbed (less than 1 hr sleepless)
- My sleep is mildly disturbed (1-2 hrs sleepless)
- My sleep is moderately disturbed (2-3 hrs sleepless)
- My sleep is greatly disturbed (3-5 hrs sleepless)
- My sleep is completely disturbed (5-7 hrs sleepless)

Section 10: Recreation

- I am able to engage in all my recreation activities with no neck pain at all
- I am able to engage in all my recreation activities, with some pain in my neck
- I am able to engage in most, but not all of my usual recreation activities because of pain in my neck
- I am able to engage in a few of my usual recreation activities because of pain in my neck
- I can hardly do any recreation activities because of pain in my neck
- I can't do any recreation activities at all

Score: /50 Transform to percentage score x 100 = %points

- **Scoring:** For each section the total possible score is 5: if the first statement is marked the section score = 0, if the last statement is marked it = 5. If all ten sections are
- completed the score is calculated as follows: Example:16 (total scored) 50 (total possible score) x 100 = 32%
- If one section is missed or not applicable the score is calculated: 16 (total scored)45 (total possible score) x 100 = 35.5%
- Minimum Detectable Change (90% confidence): 5 points or 10 %points
- NDI developed by: Vernon, H. & Mior, S. (1991). The Neck Disability Index: A study of reliability and validity. Journal of Manipulative and Physiological Therapeutics. 14, 409-415

STATISTICAL ANALYSIS:

Datas are expressed as Mean ± S.E.M using student's paired t- test of prism graph pad software. P values <0.0001 were observed as statistically significant.

INVESTIGATION:

The following investigations were done in all selected patients in laboratory of **Govt. Siddha Medical College, Palayamkottai**.

Blood:

- ❖ Total WBC Count
- ❖ Differential WBC count
- ❖ Erythrocyte Sedimentation Rate

- ❖ Haemoglobin estimation
- ❖ Estimation of Sugar
- ❖ Estimation of Urea
- ❖ Estimation of Cholesterol.
- ❖ Estimation of bilirubin
- ❖ Estimation of creatinine.

Urine:

- ❖ Albumin
- ❖ Sugar
- ❖ Deposits

Radiological Investigations:

X-Ray cervical spine

- ❖ AP- View
- ❖ Lateral View

Other Investigations:

- ❖ **MRI**
- ❖ **CT-Spine**

Treatment:

All the patients were treated with the following medicine,

- ➢ **INGI CHOORANAM -1 gm twice a day** with **warm water after food (internally)** is given for 48 days till the end of the course.
- ➢ All the patients were advised to dietary regimen. Yogasana were advised for a supportive therapy. The Bio-Chemical analysis was done in the Bio chemical laboratory of **Govt. Siddha Medical College, Palayamkottai.** Pharmacological analysis was done in **KM College of pharmacy, Uthangudi, Madurai.**

CHAPTER-V
OBSERVATIONS AND RESULT

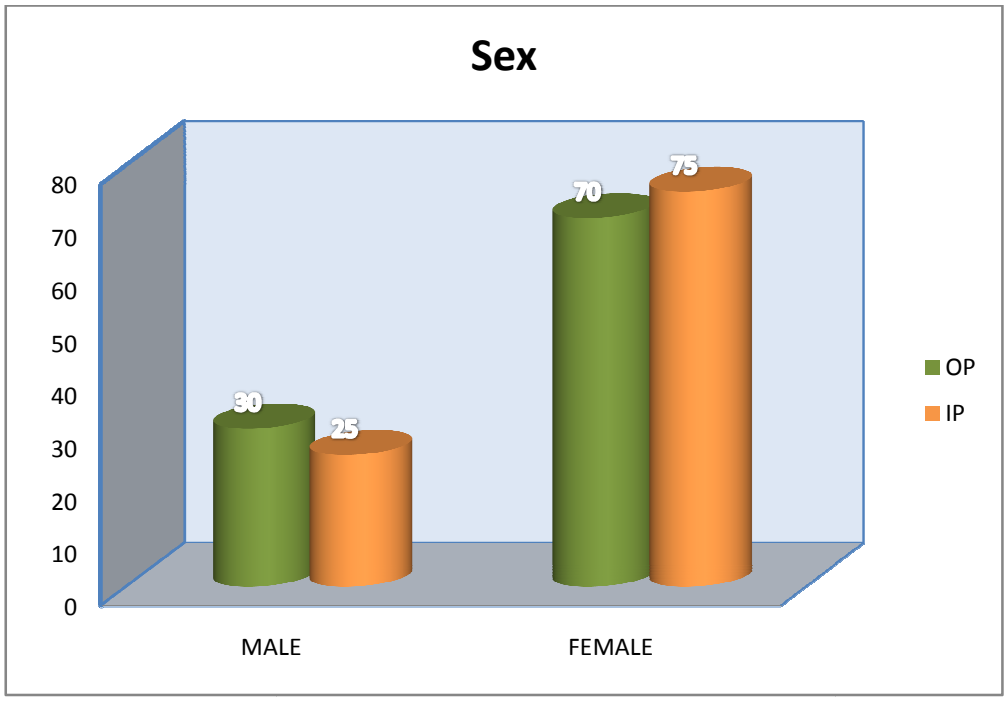
For the clinical study 20 Inpatients and 20 Out patients were selected, treated in PG-I Department of Pothu Maruthuvam G.S.M.C Palayamkottai. Results were observed with respect to following criteria.

1. Sex Distribution
2. Age Distribution
3. Kaalam
4. Constitution of the Body
5. Gunam
6. Religion
7. Thinai
8. Parvakaalam
9. Occupational status
10. Diet
11. Socio-Economic status
12. Aetiological factors
13. Mode of onset
14. Duration of illness
15. Clinical manifestation
16. Gnanendrium
17. Kanmendrium
18. Conditions of Mukkutram :
    i) Vatham
    ii) Pitham
    iii) Kapham
19. Udal thathukkal
20. Envagai Thervugal
21. Neikuri
22. Assessment of outcome
    a) Before treatment
    b) After treatment
23. Radiological findings
24. Gradation of Results

Table-1: Sex Distribution:

S.No	Sex	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Male	06	30	05	25
2.	Female	14	70	15	75

Figure-1



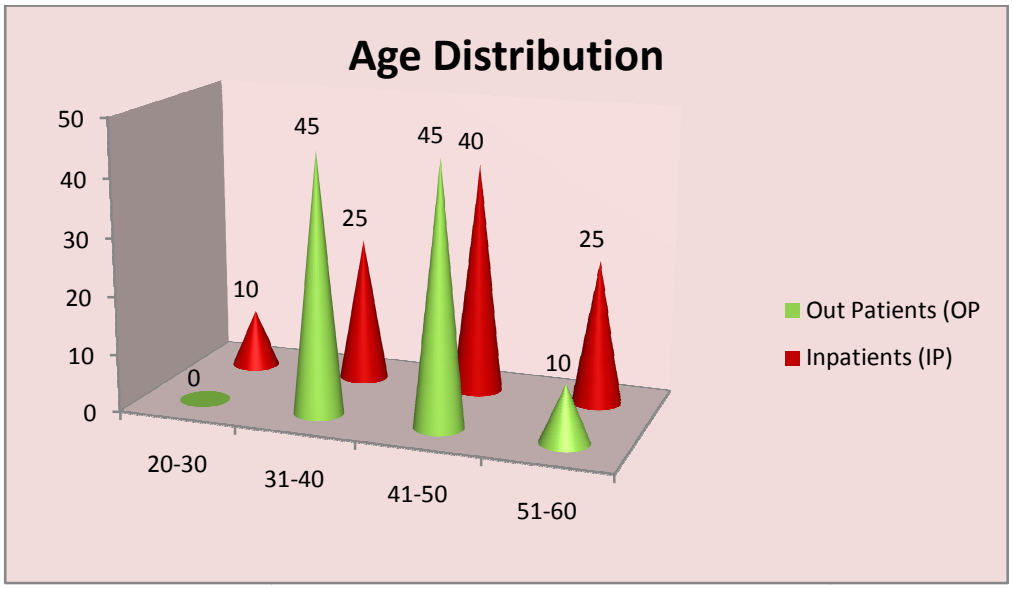
Inference:

Among 20 out patients, 30% were male and 70% were female.
Out of 20 in patients, 25% were male and 75% were female.

Table-2: Age Distribution

S.No	Age group in year	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	20-30	0	0	2	10
2.	31-40	9	45	5	25
3.	41-50	9	45	8	40
4.	51-60	2	10	5	25

Figure 2:



Inference :

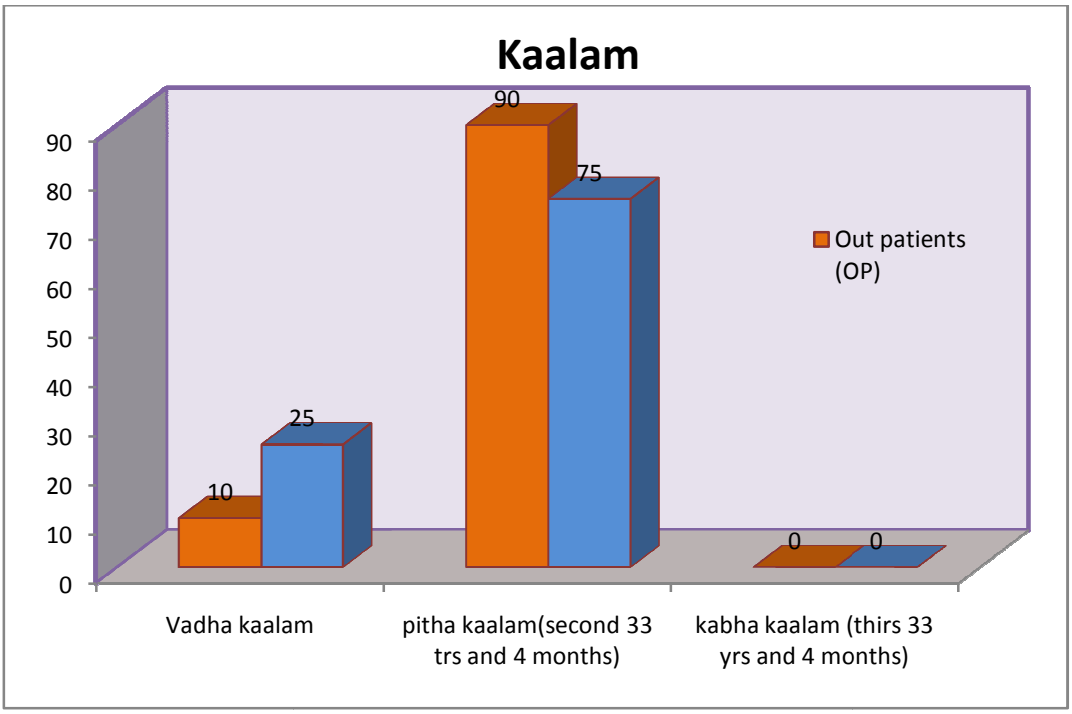
Among 20 out patients, 45% of cases were in the age group of 31-40 years, 45% were in the age group of 41-50 years, 10% were in the age group of 51-60 years.

Among 20 In patients, 40% were in the age group of 41-50 years, 25% of cases were observed in the age group 31-40 years, 25%were in the age group of 51-60 years, 10% of cases were in the age group of 20-30 years.

Table-3: Kaalam

S.No	Kaalam	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Vadha Kaalam (First 33 yrs and 4 months)	2	10	5	25
2.	Pitha Kaalam (Second 33 yrs and 4 months)	18	90	15	75
3.	Kabha Kaalam (Third 33 yrs and 4 months)	-	-	-	-

Figure-3



Inference :

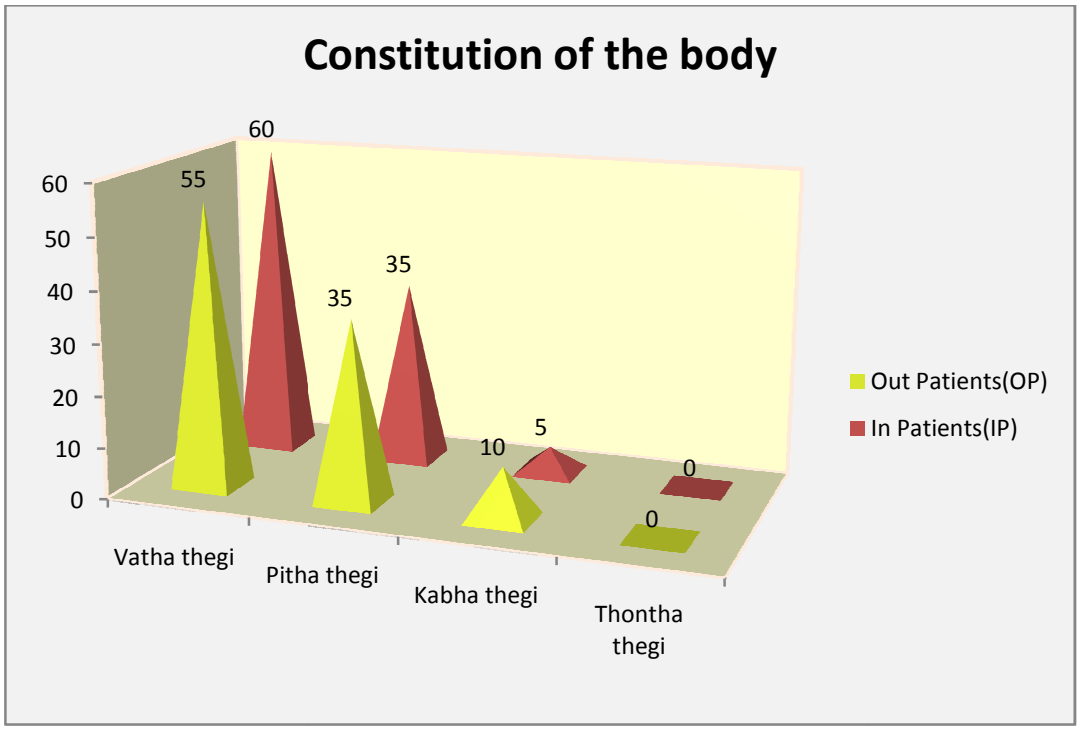
Among 20 out patients, 90% comes under pitha kaalam, 10% comes under Vatha kaalam.

Among 20 Inpatients 75% of the cases comes under pitha kaalam, 25% of the cases comes under vatha kaalam.

Table-4: Constitution of the body:

S.No.	Constitution of the body	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Vatha Thegi	11	55	12	60
2.	Pitha Thegi	7	35	7	35
3.	Kabha Thegi	2	10	1	5
4.	Thontha Thegi	-	-	-	-

Figure-4



Inference :

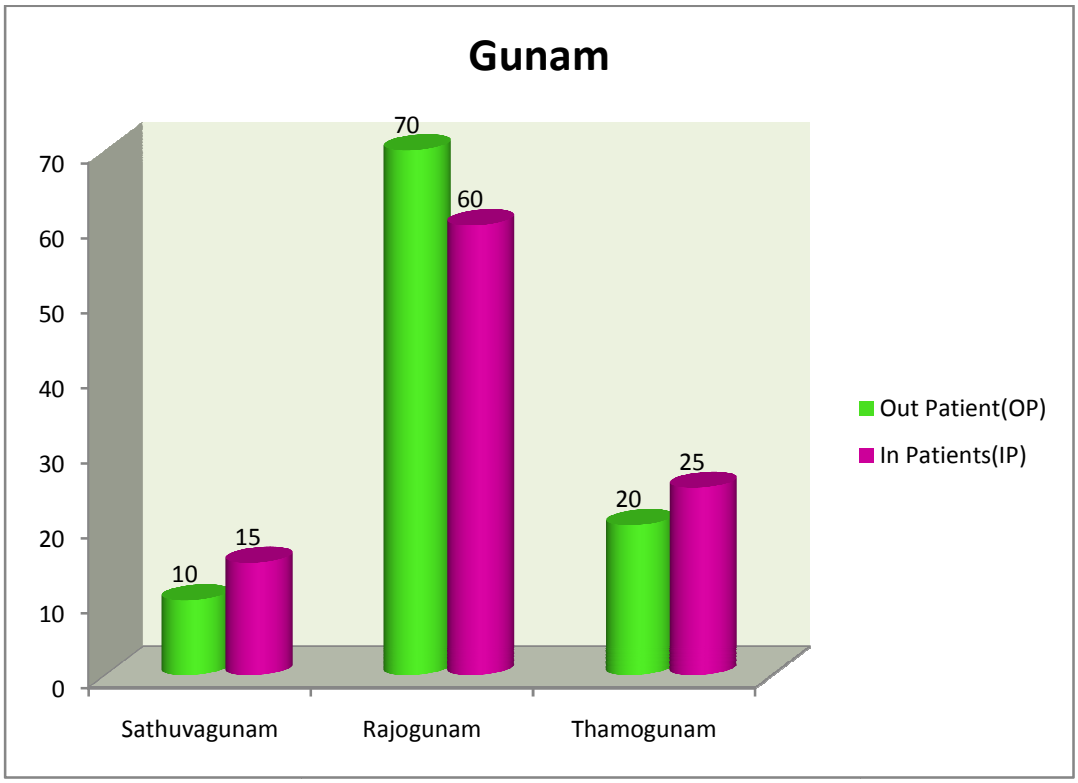
Among 20 out patients, 55% were vatha thegi, 35% were pitha thegi, 10% were kabha thegi.

Among 20 in patients, 60% were vatha thegi, 35% were pitha thegi, 5% were Kabha thegi.

Table-5: Gunam

S.No	Gunam	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Sathuvagunam	2	10	3	15
2.	Rajogunam	14	70	12	60
3.	Thamogunam	4	20	5	25

Figure-5



Inference :

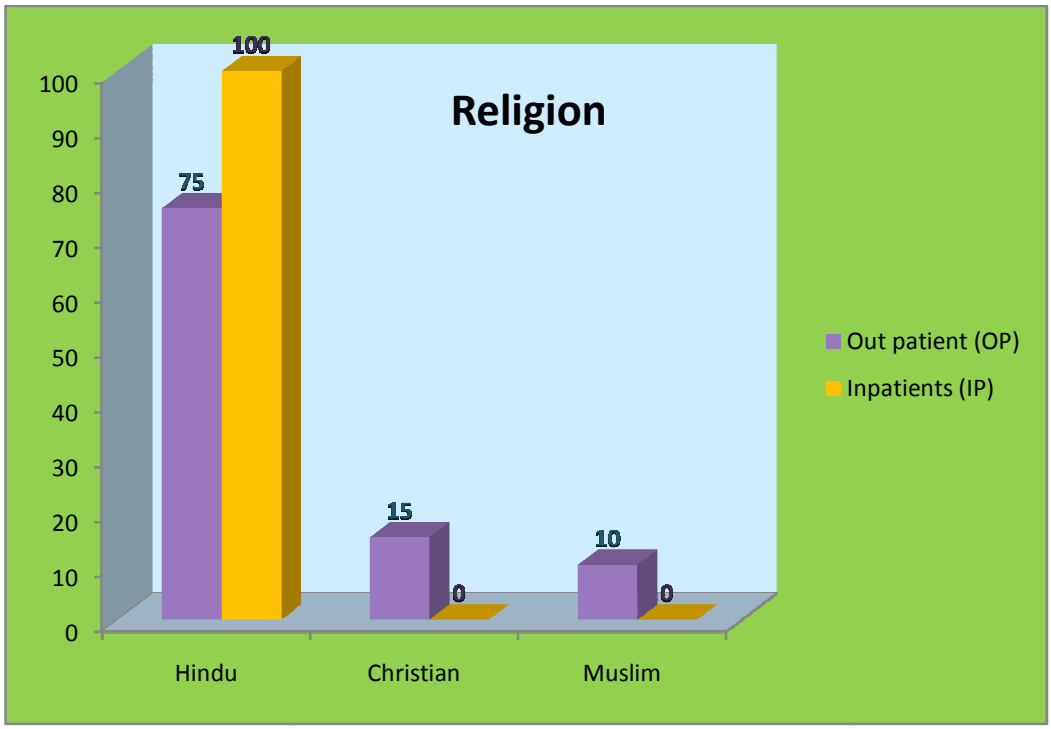
Among 20 out patients, 70% were Rajogunam, , 20% were Thamogunam, 10% were Sathuvagunam.

Among 20 in patients, 60% were Rajogunam, 25% were Thamogunam, 15% were sathuvagunam.

Table-6: Religion Distribution:

S.No	Religion	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Hindu	15	75	20	100
2.	Christian	3	15	-	-
3.	Muslim	2	10	-	-

Figure-6



Inference :

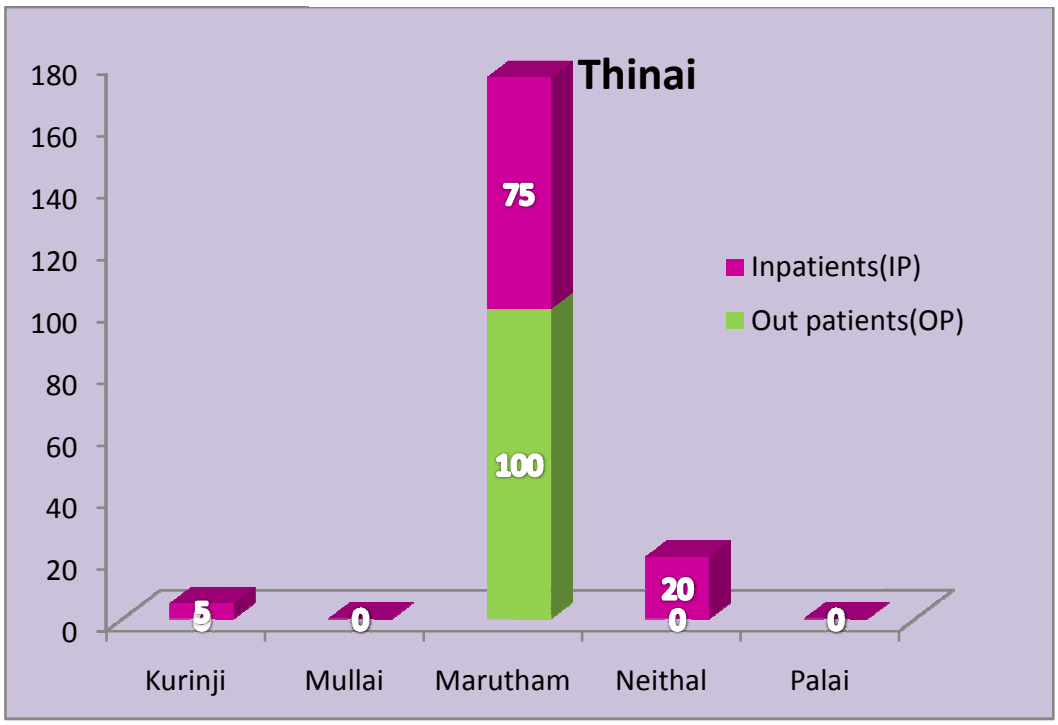
Among 20 out patients, 75% were Hindu, 15% were Christian, 10% were Muslim.

Among 20 in patients, 100% were Hindu.

Table-7: Thinai

S.No	Thinai	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Kurinji	-	-	1	5
2.	Mullai	-	-	-	-
3.	Marutham	20	100	15	75
4.	Neithal	-	-	4	20
5.	Palai	-	-	-	-

Figure-7



Inference :

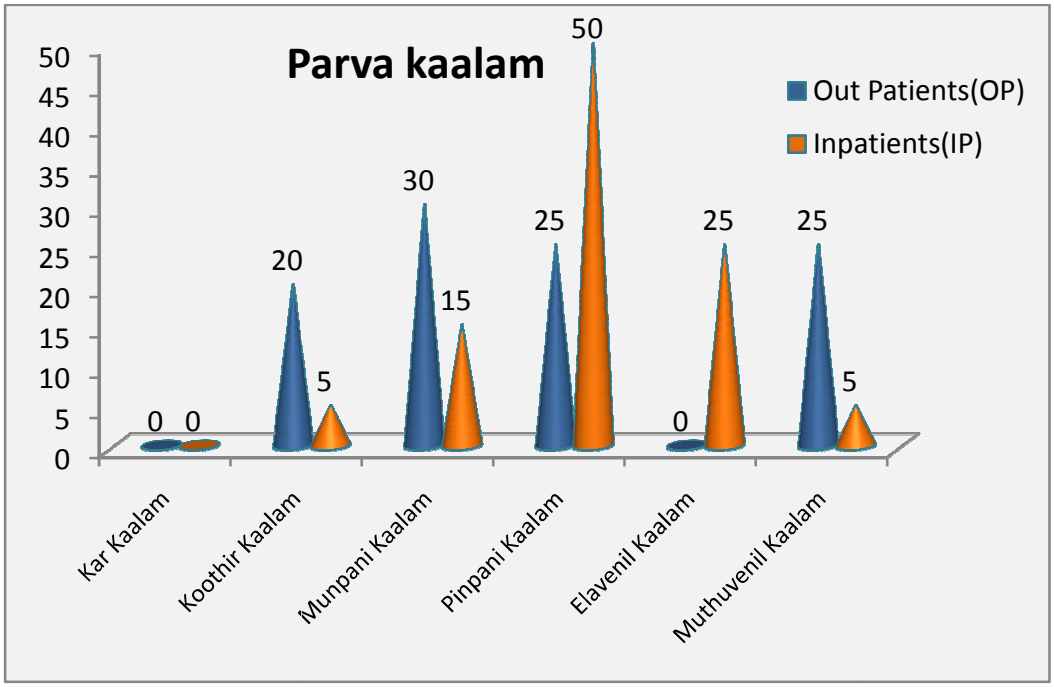
Among 20 out patients, 100% cases were in Marutham.

Among 20 in patients, 75% cases were in Marutham, 20% were in Neithal, 5% were in Kurinji.

Table-8: Parva kalam

S.No	Parvakalam	Months	Out Patients (OP)		Inpatients (IP)	
			No of cases	%	No of cases	%
1.	Kar Kalam	Aavani-Puratasi	-	-	-	-
2.	Koothir Kalam	Iyppasi - Karthigai	4	20	1	5
3.	Munpani kalam	Markazhi - Thai	6	30	3	15
4.	Pinpani kaalam	Masi-Panguni	5	25	10	50
5.	Elavenil Kaalam	Chithirai - Vaikasi	-	-	5	25
6.	Muthuvenil kaalam	Aani- Aadi	5	25	1	5

Figure-8



Inference :

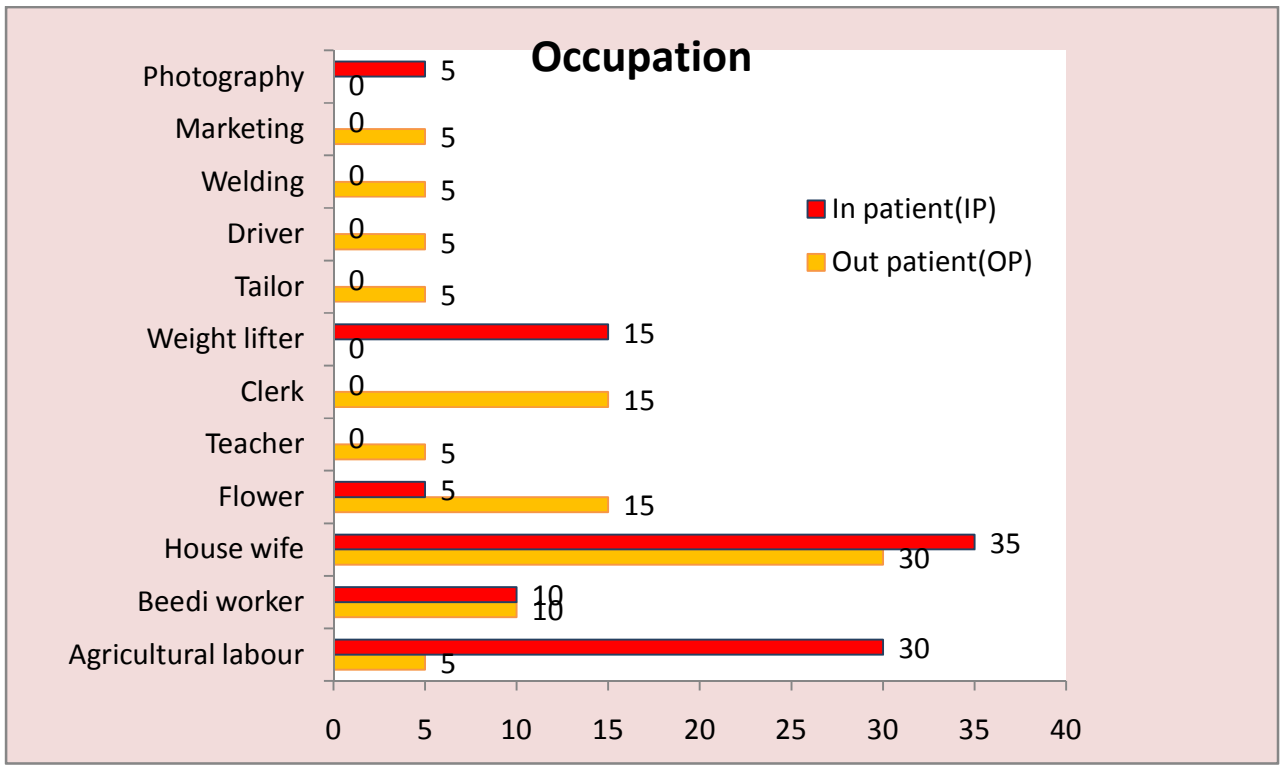
Among 20 out patients, 30% cases were affected in Munpani kaalam, 25% cases were affected in pinpanni kaalam, 25% cases were affected in Muthuvenil Kaalam, 20% cases were affected in Koothir kaalam.

Among 20 in patients, 50% cases were affected in pinpanni kaalam, 25% cases were affected in Elavenil kaalam, 15% cases were affected in Munpanni kaalam, 5% cases were affected in Koothir kaalam, 5% cases were affected in Muthuvenil kaalam.

Table-9: Occupation :

S.No	Occupation	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Agricultural labour	1	5	6	30
2.	Beedi worker	2	10	2	10
3.	House wife	6	30	7	35
4.	Flower string	3	15	1	5
5.	Teacher	1	5	-	-
6.	Clerk	3	15	-	-
7.	Weight lifter	-	-	3	15
8.	Tailor	1	5	-	-
9.	Driver	1	5	-	-
10.	Welding	1	5	-	-
11.	Marketing	1	5	-	-
12.	Photography	-	-	1	5

Figure-9



Inference :

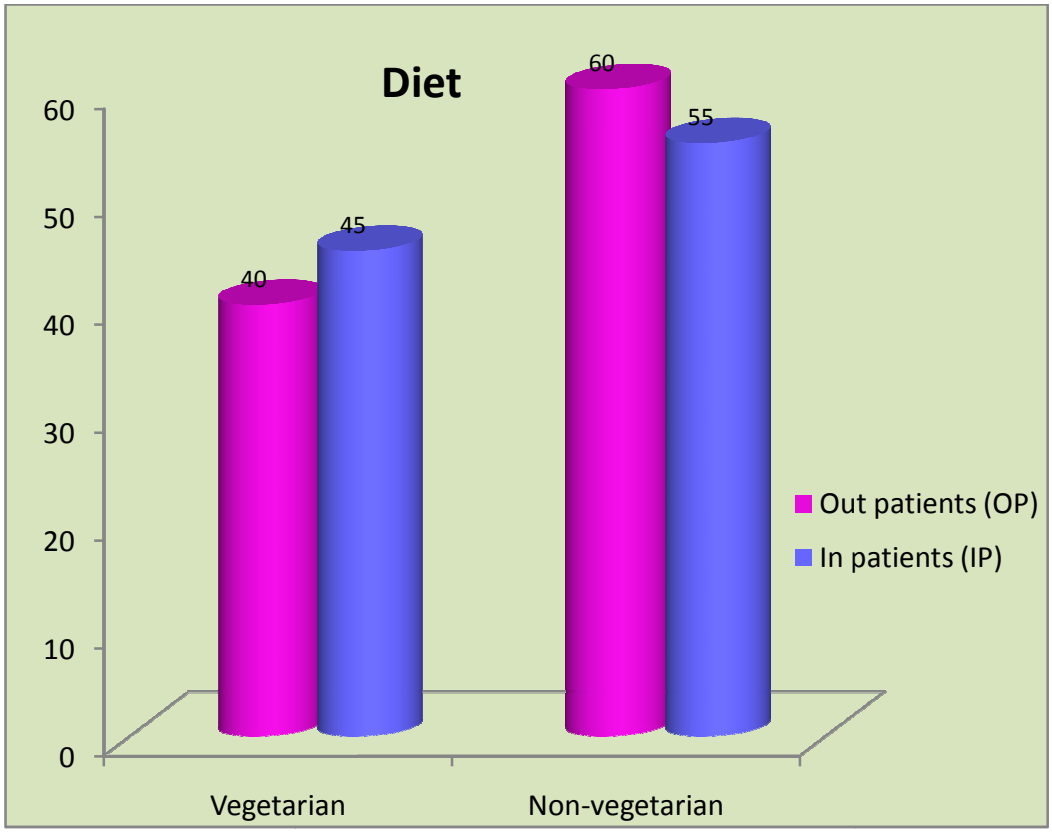
Among 20 out patients, 30% cases were in Housewife, 15% were in flower string and clerk, 10% were in Beedi workers, 5% Agricultural labour, Teacher, Tailor, marketing, welding and Driver.

Among 20 in patients, 35% were in House wife, 30% cases were in Agricultural labour 15% were in weight lifter, 10% were in Beedi worker, 5% were in Flower string and Photography.

Table-10: Diet:

S.No	Diet	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Vegetarian	8	40	9	45
2.	Non -Vegetarian	12	60	11	55

Figure-10



Inference :

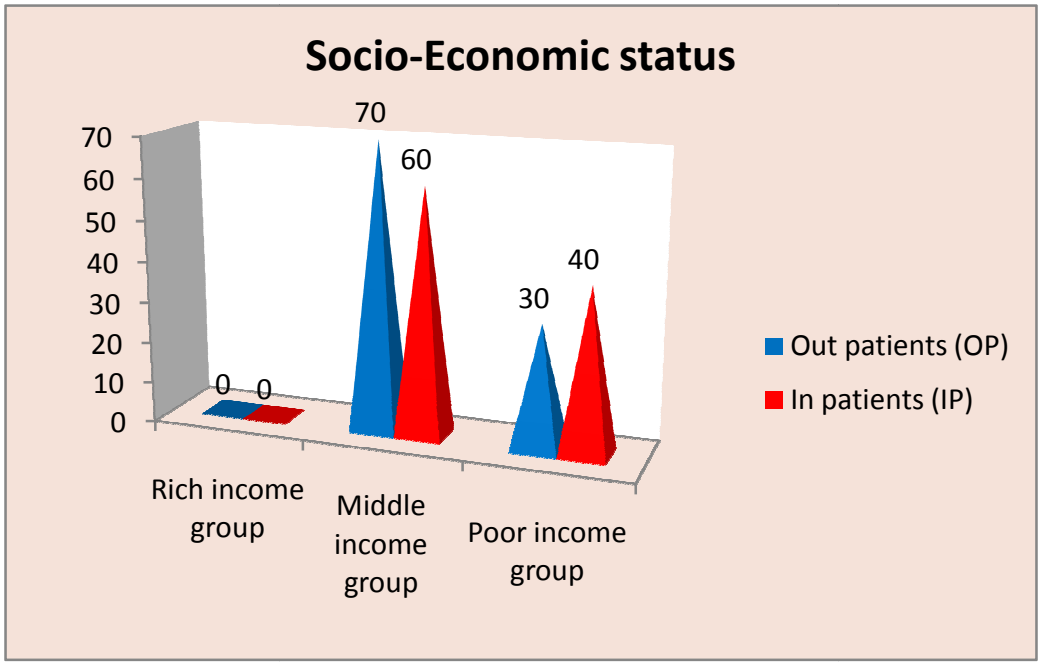
Among 20 out patients, 60% cases were in non vegetarian, 40% cases were in vegetarian.

Among 20 in patients, 55% cases were in non vegetarian, 45% cases were in vegetarian.

Table-11: Socio- Economic status

S.No.	Socio- Economic Status	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Rich income group	-	-	-	-
2.	Middle Income group	14	70	12	60
3.	Poor Income group	6	30	8	40

Figure-11



Inference :

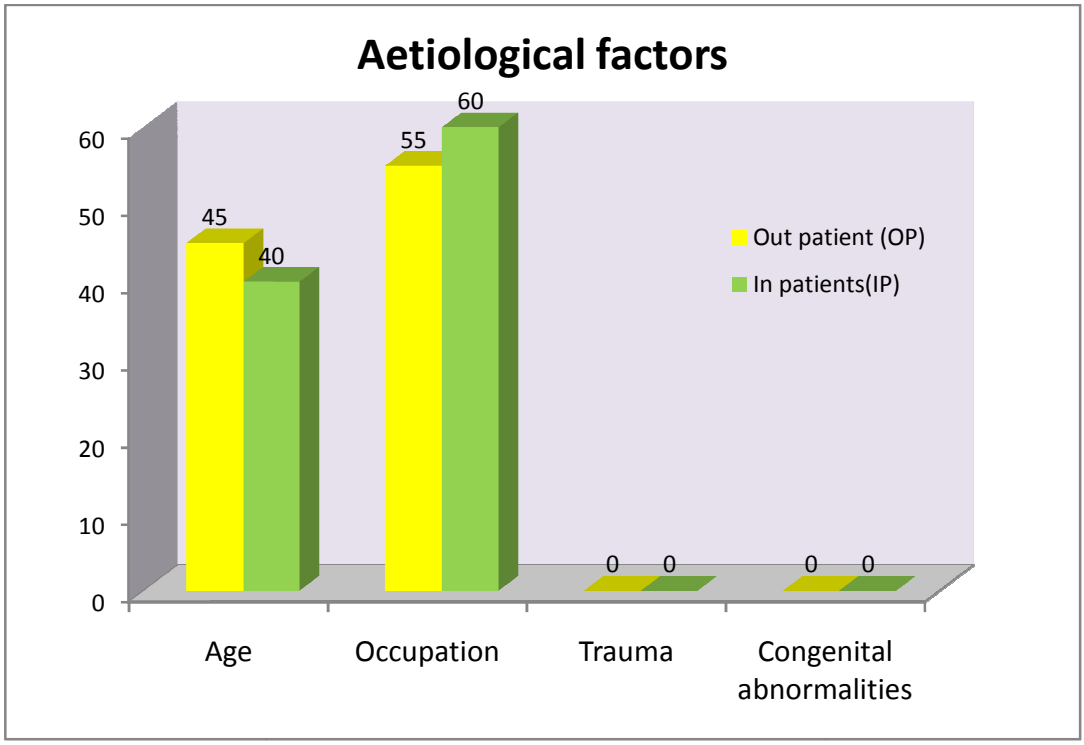
Among 20 out patients, 70% cases were middle income group, 30% of cases were poor income.

Among 20 in patients, 60% cases were middle income group, 40% of cases were poor income.

Table-12: Aetiological factors:

S.No	Aetiological factors	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Age	9	45	8	40
2.	Occupation	11	55	12	60
3.	Trauma	-	-	-	-
4.	Congenital abnormalities	-	-	-	-

Figure-12



Inference :

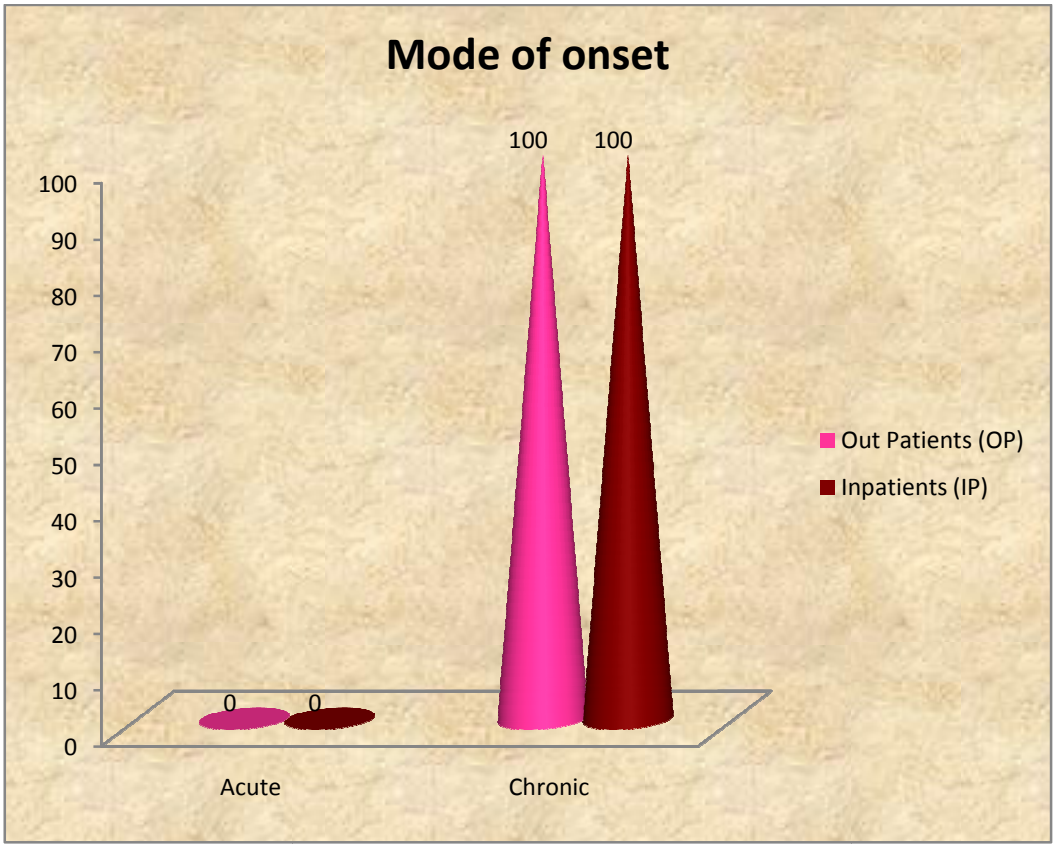
Among 20 out patients, 55% of cases were due to occupation and 45% of the cases were due to age factor.

Among 20 in patients, 60% of the cases were due to occupation, 40% of cases were due to age factor.

Table-13: Mode of onset

S.No	Mode of onset	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Acute	-	-	-	-
2.	Chronic	20	100	20	100

Figure-13



Inference :

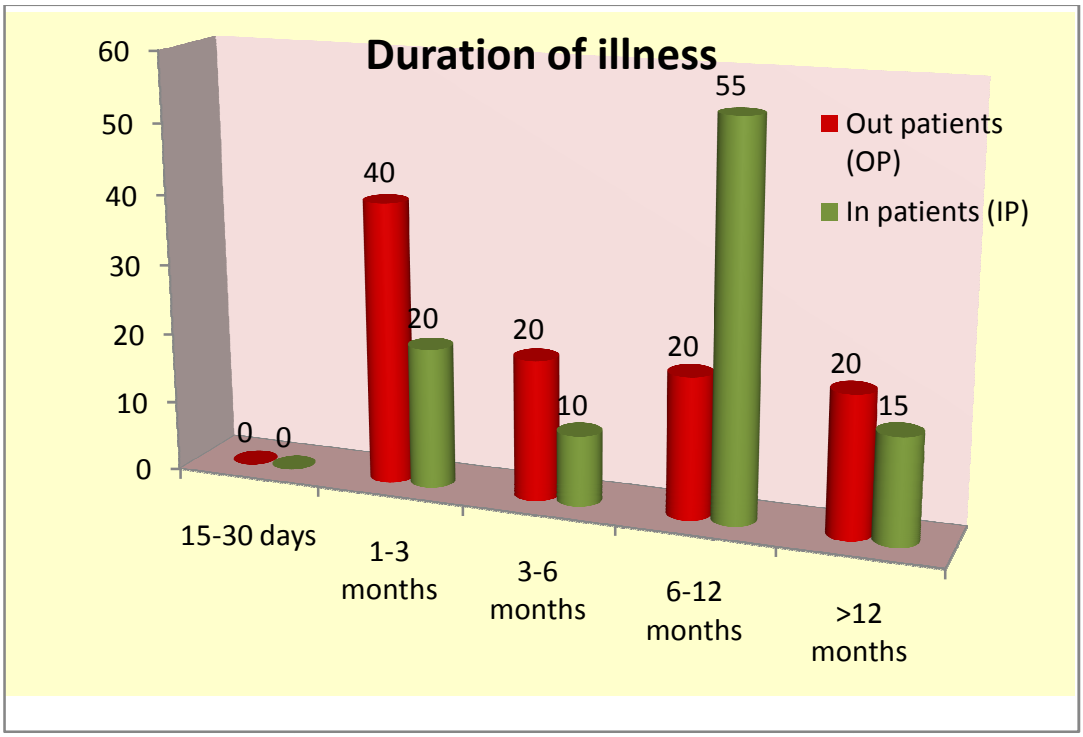
Among 20 out patients, 100% of cases were chronic onset.

Among 20 in patients, 100% of the cases were chronic onset.

Table-14: Duration of illness:

S.No	Duration of illness	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	15-30 days	-	-	-	-
2.	1-3 months	8	40	4	20
3.	3-6 months	4	20	2	10
4.	6-12 months	4	20	11	55
5.	> 12 months	4	20	3	15

Figure-14



Inference :

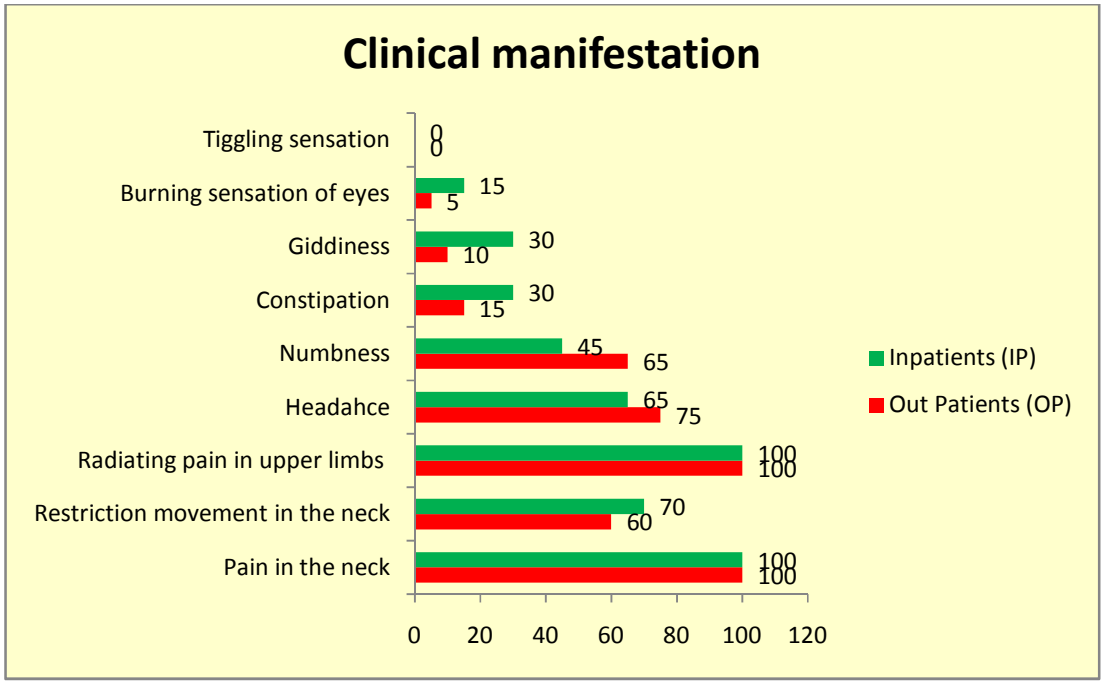
Among 20 out patients, Duration of illness is, 40% in 1-3 months, 20% in 3-6 months, 20% in 6-12 months, 20% in > 12 months.

Among 20 in patients, Duration of illness is 55% in 6-12 months, 20% in 1-3 months, 15% in >12 months, 10% in 3-6 months.

Table-15: Clinical manifestation:

S.No	Signs and symptoms	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Pain in the neck	20	100	20	100
2.	Restriction movement in the neck	12	60	14	70
3.	Radiating pain in upper limbs	20	100	210	100
4.	Headahce	15	75	13	65
5.	Numbness	13	65	9	45
6.	Constipation	3	15	6	30
7.	Giddiness	2	10	6	30
8.	Burning sensation of eyes	1	5	3	15
9.	Tiggling sensation	-	-	-	-

Figure-15



Inference :

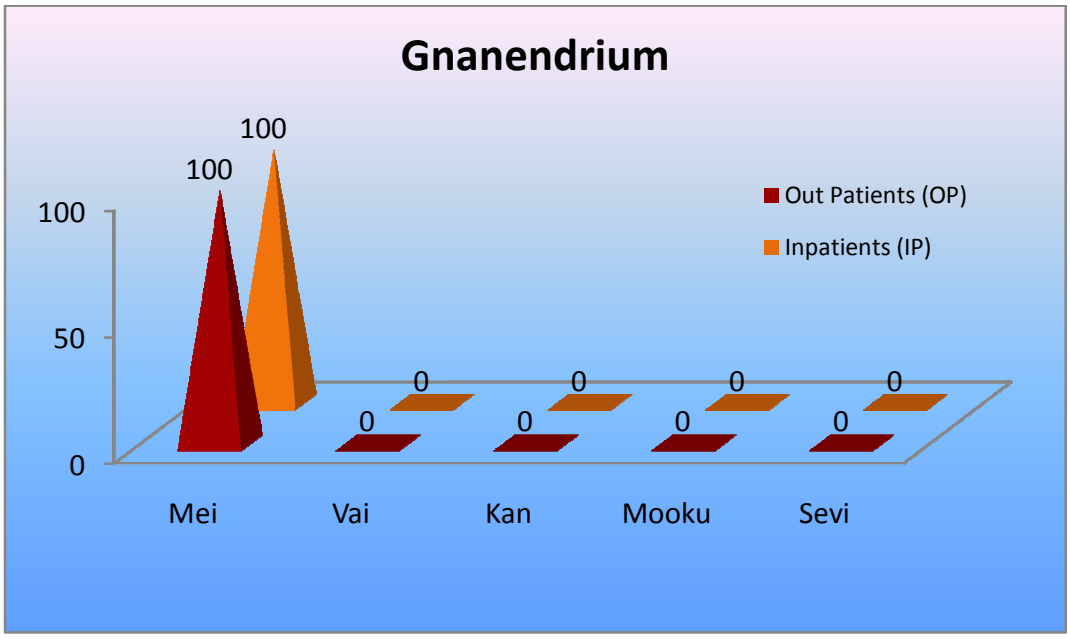
Among 20 out patients, 100% of the cases had pain in the neck, 100% of the cases had radiating pain in upper limbs, 75% of the cases had headache, 65% of the cases had numbness, 60% of the cases had restriction movement in the neck, 15% of the cases had constipation, 10% of the cases had giddiness, 5% of the cases had burning sensation of eyes.

Among 20 in patients, 100% of the cases had pain in the neck, 100% of the cases had radiating pain in upper limbs, 70% of the cases had restriction movement in the neck, 65% of the cases had headache, 45% of the cases had numbness, 30% of the cases had constipation, 30% of the cases had giddiness, 15% of the cases had burning sensation of eyes.

Table-16: Gnanendrium reference:

S.No	Gnanendrium	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Mei	20	100	20	100
2.	Vai	-	-	-	-
3.	Kan	-	-	-	-
4.	Mooku	-	-	-	-
5.	Sevi	-	-	-	-

Figure-16:



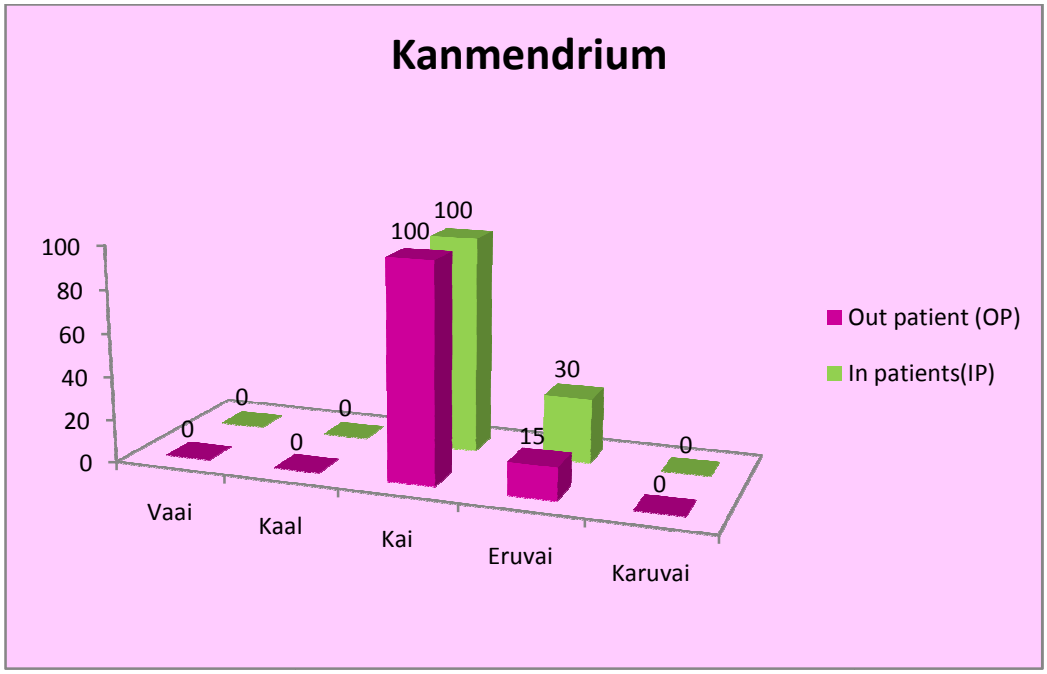
Inference:

In both out patients and in patients, 100% mei was affected.

Table-17: Kanmendrium

S.No	Kanmendrium	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Vaai	-	-	-	-
2.	Kaal	-	-	-	-
3.	Kai	20	100	20	100
4.	Eruvai	3	15	6	30
5.	Karuvai	-	-	-	-

Figure-17



Inference :

Among 20 out patients, 100% kai was affected and. 15% Eruvai was affected.

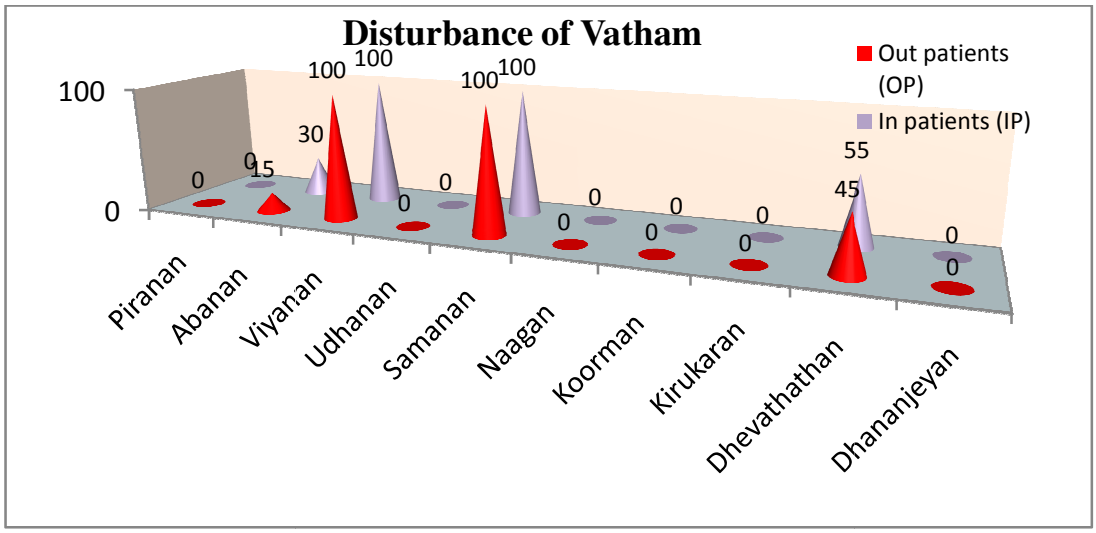
Among 20 in patients, 100% Kai was affected and 30% Eruvai was affected.

18. Conditions of Mukkutram:

Table-18 (a): Disturbance of Vatham:

S.No	Disturbance of Vatham	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Piranan	-	-	-	-
2.	Abanan	3	15	6	30
3.	Viyanan	20	100	20	100
4.	Udhanan	-	-	-	-
5.	Samanan	20	100	20	100
6.	Naagan	-	-	-	-
7.	Koorman	-	-	-	-
8.	Kirukaran	-	-	-	-
9.	Dhevathathan	9	45	11	55
10.	Dhananjeyan	-	-	-	-

Figure-18(a)



Inference :

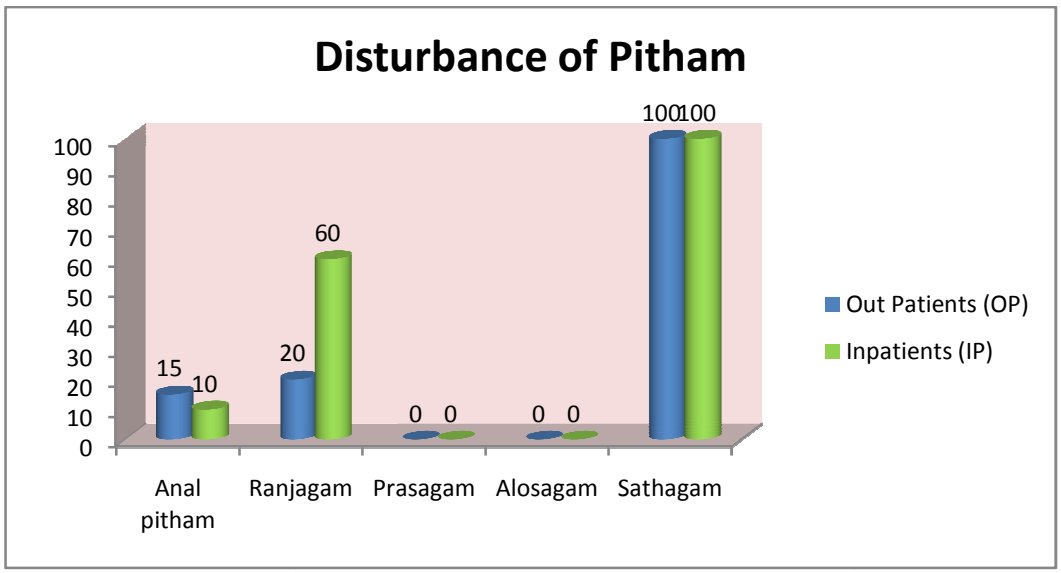
Among 20 out patients, 100% of the cases were affected in Viyanan & Samanan, 45% of the cases were affected in Dhevathathan, 15% of the cases were affected in Abanan.

Among 20 in patients, 100% of the cases were affected in Viyanan & Samanan, 55% of the cases were affected in Dhevathathan, 30% of the cases were affected in Abanan.

Table-18(b): Disturbance of Pitham :

S.No	Disturbance of Pitham	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Anal pitham	3	15	2	10
2.	Ranjagam	4	20	12	60
3.	Prasagam	-	-	-	-
4.	Alosagam	-	-	-	-
5.	Sathagam	20	100	20	100

Figure-18(b)



Inference :

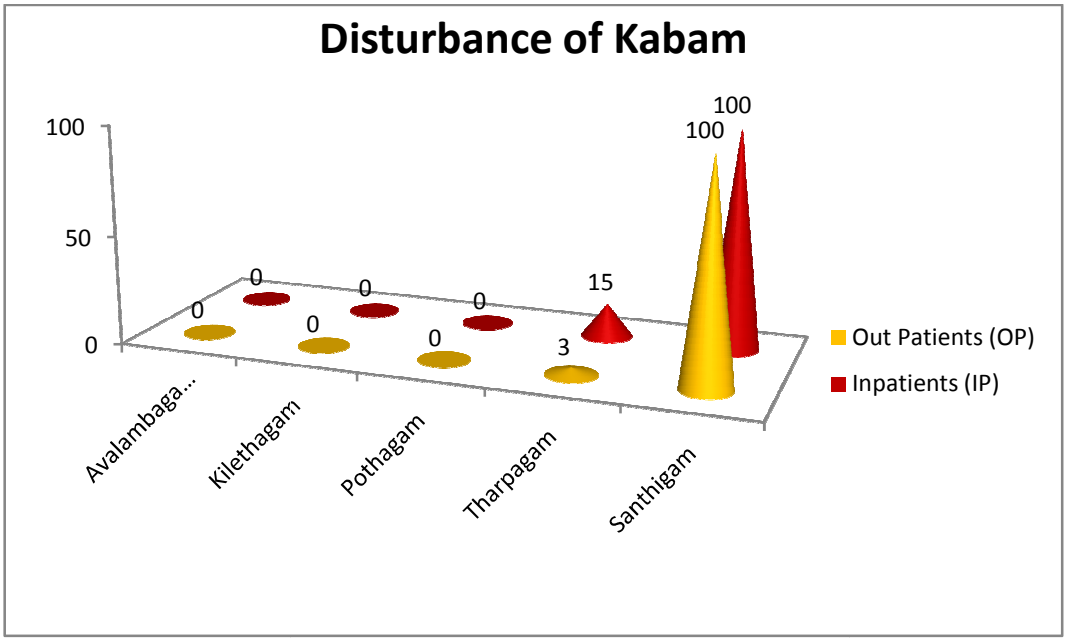
Among 20 out patients, 100% of the cases were affected in Sathagam, 20% of the cases were affected in Ranjagam, 15% of the cases were affected in Analpitham.

Among 20 in patients, 100% of the cases were affected in sathagam, 60% of the cases were affected in Ranjagam, 10% of the cases were affected in Analpitham.

Table-18(c): Distance of Kapham

S.No.	Disturbance of Kabham	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Avalambagam	-	-	-	-
2.	Kilethagam	-	-	-	-
3.	Pothagam	-	-	-	-
4.	Tharpagam	1	5	3	15
5.	Santhigam	20	100	20	100

Figure-18(c)



Inference :

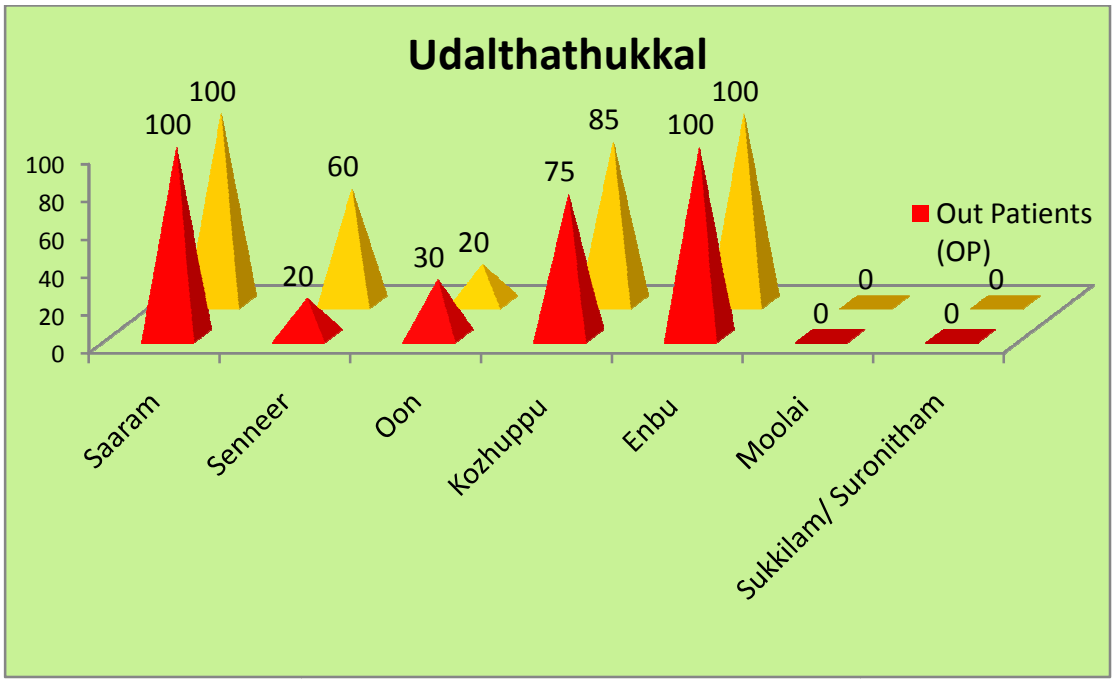
Among 20 out patients, 100% of the cases were affected in Santhigam, 5% of the cases were affected in Tharpagam.

Among 20 in patients, 100% of the cases were affected in Santhigam, 15% of the cases were affected in Tharpagam.

Table-19: Udalthathukkal and relative percentage:

S.No	Udalthathukkal	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Saaram	20	100	20	100
2.	Senneer	4	20	12	60
3.	Oon	6	30	4	20
4.	Kozhuppu	15	75	17	85
5.	Enbu	20	100	20	100
6.	Moolai	-	-	-	-
7.	Sukkilam/ Suronitham	-	-	-	-

Figure-19



Inference :

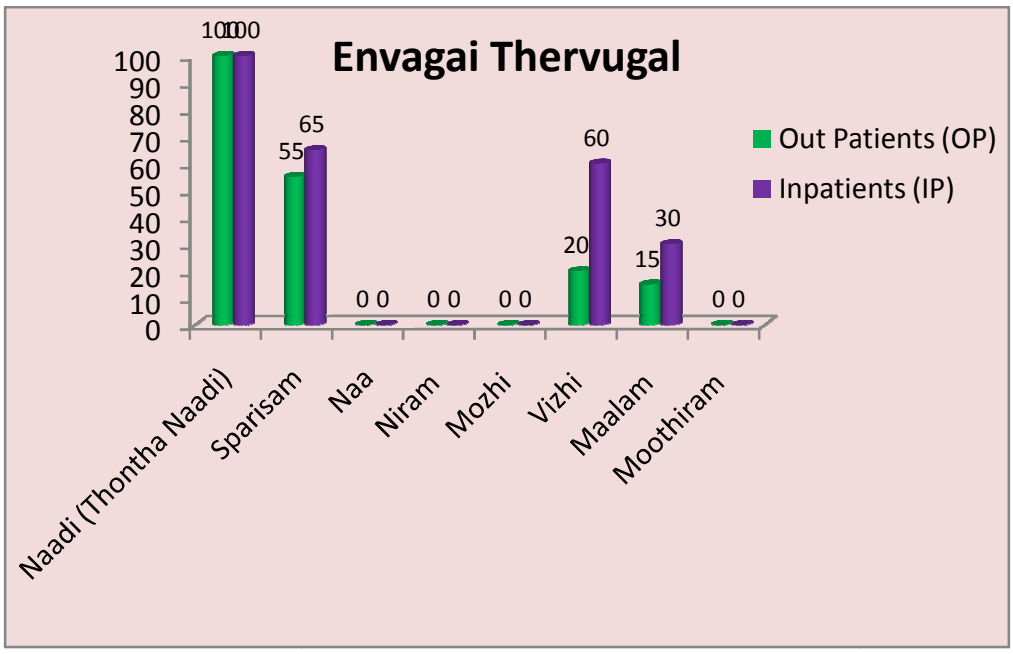
Among 20 out patients, 100% of the cases were affected in Saaram and Enbu, 75% of the cases were affected in Kozhuppu, 30% of the cases were affected in Oon, 20% of the cases were affected in Senneer.

Among 20 in patients, 100% of the cases were affected in Sarram and Enbu, 85% of the cases were affected in Kozhuppu, 60% of the cases were affected in Senneer, 20% of the cases were affected in Oon.

Table-20: Envagai Thervugal and Relative percentage:

S.No	Envagai Thervugal	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Naadi (Thontha Naadi)	20	100	20	100
2.	Sparisam	11	55	13	65
3.	Naa	-	-	-	-
4.	Niram	-	-	-	-
5.	Mozhi	-	-	-	-
6.	Vizhi	4	20	12	60
7.	Maalam	3	15	6	30
8.	Moothiram	-	-	-	-

Figure-20



Inference :

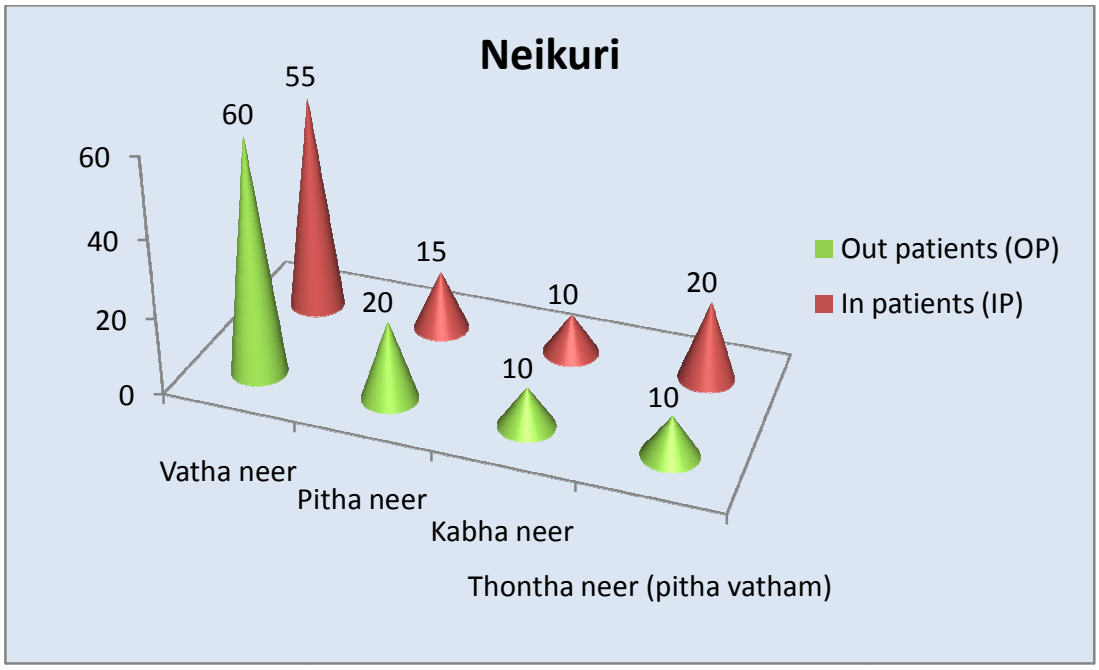
Among 20 out patients, 100% of the cases were as Thontha Naadi, 55% of the cases were affected in Sparisam, 20% of the cases were affected in vizhi, 15% of the cases were affected in Maalam.

Among 20 in patients, 100% of the cases were as Thontha Naadi, 65% of the cases were affected in Sparisam, 60% of the cases were affected in vizhi, 30% of the cases were affected in Maalam.

Table-21: Neikuri

S.No	Neikuri	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Vatha neer	12	60	11	55
2.	Pitha neer	4	20	3	15
3.	Kabha neer	2	10	2	10
4.	Thontha neer (pitha vatham)	2	10	4	20

Figure-21



Inference:

Among 20 out patients, 60% of the cases were Vatha neer, 20% of the cases were pitha neer, 10% of the cases were kabha neer, 10% of the cases were thontha neer (pitha vatham).

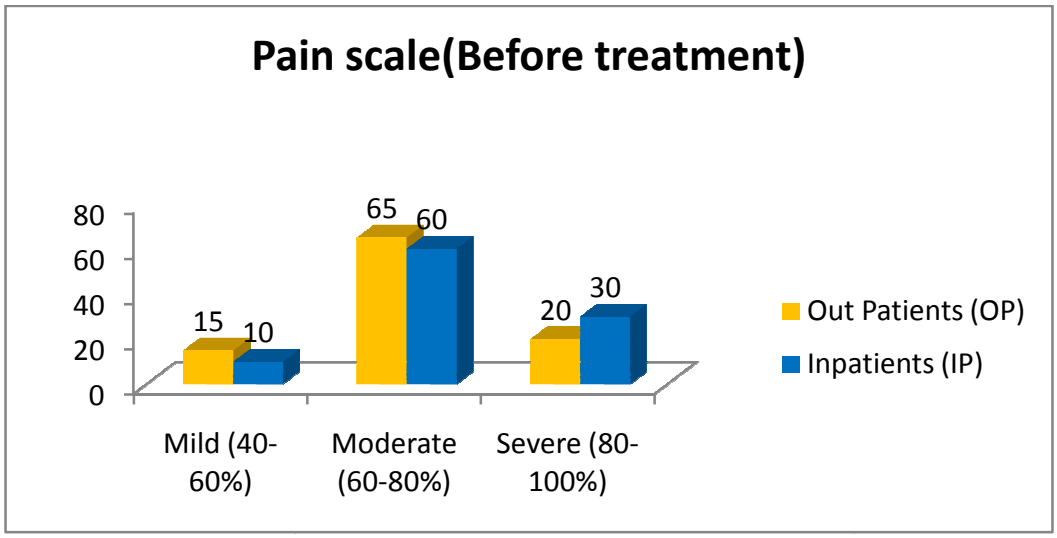
Among 20 in patients, 55% of the cases were vatha neer, 20% of the cases were thontha neer (pitha vatham), 15% of the cases were pitha neer, 10% of the cases were Kabha neer.

22. Assessment of outcome:

Table-22(a): Before treatment

S.No	Pain scale	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Mild (40-60%)	3	15	2	10
2.	Moderate (60-80%)	13	65	12	60
3.	Severe (80-100%)	4	20	6	30

Figure-22(a)



Inference :

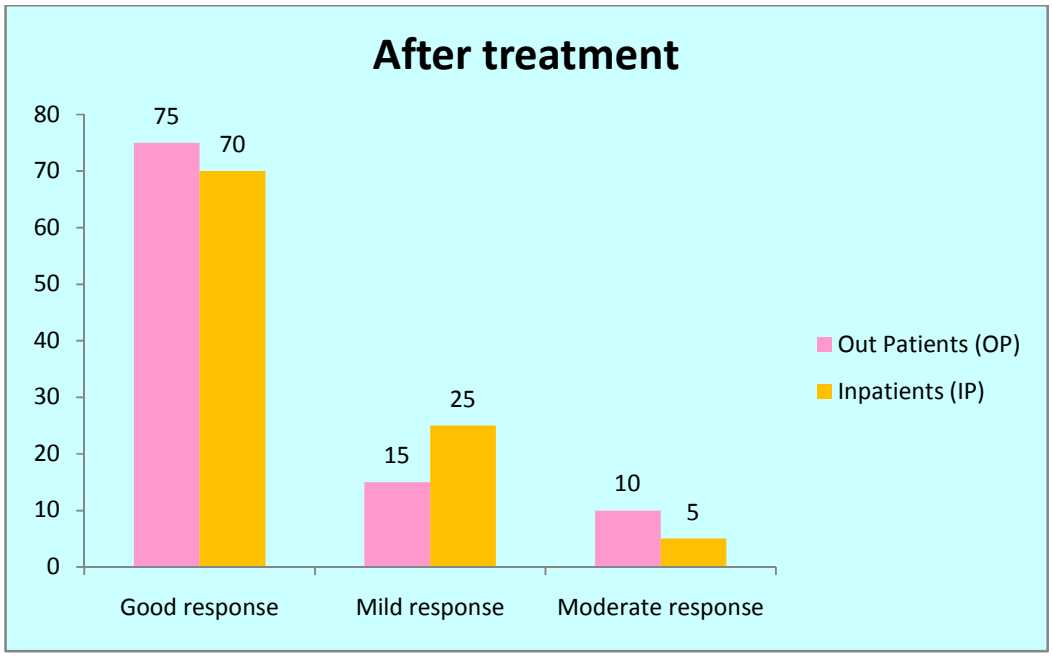
From the table, it is observed that among 20 out patients, 65% were affected moderately, 20% were affected severely, 15% were affected mildly.

Among 20 in patients, 60% were affected moderately, 30% were affected severely, 10% were affected mildly.

Table-22(b): After treatment

S.No	Pain scale (Improvement)	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Good (Below 10%)	15	75	14	70
2.	Mild (10-20%)	3	15	5	25
3.	Moderate (20-35%)	2	10	1	5

Figure-22(b)



Inference :

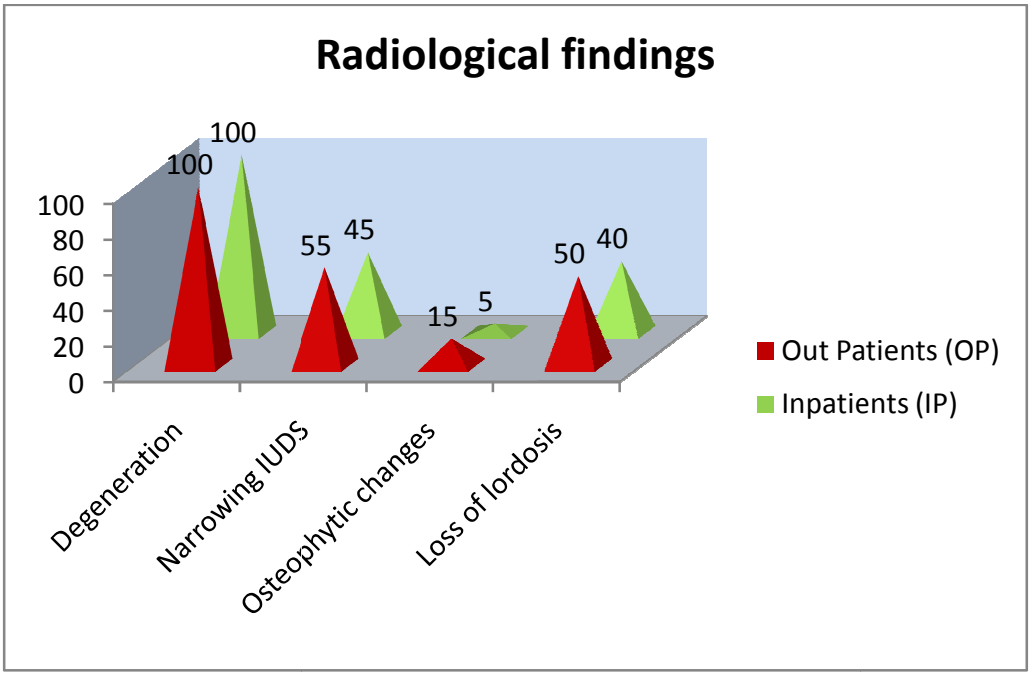
Among 20 out patients, 75% of the cases had good response, 15% of the cases had mild response, 10% of the cases had moderate response.

Among 20 in patients, 70% of the cases had good response, 25% of the cases had mild response, 5% of the cases had moderate response.

Table-23: Radiological findings:

S.No	Radiological findings	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Degeneration	20	100	20	100
2.	Narrowing IUDS	11	55	9	45
3.	Osteophytic changes	3	15	1	5
4.	Loss of lordosis	10	50	8	40

Figure-23



Inference :

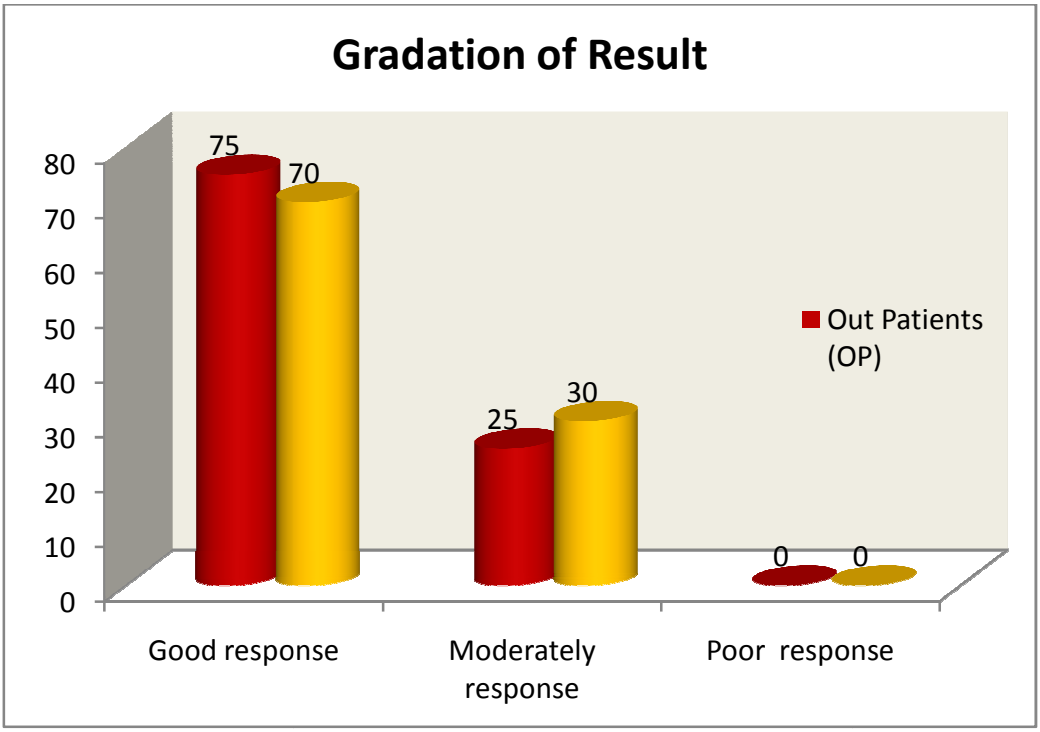
Among 20 out patients, 100% of the patients had degeneration, 55% of the cases had narrowing IUDS, 50% of the cases had loss of lordosis, 15% of the cases had osteophytic changes.

Among 20 in patients, 100% of the cases had degeneration, 45% of the cases had narrowing IUDS, 40% of the cases had loss of lordosis, 5% of the cases had osteophytic changes.

Table-24: Gradation of Results :

S.No	Gradation of Result	Out Patients (OP)		Inpatients (IP)	
		No of cases	%	No of cases	%
1.	Good response	15	75	14	70
2.	Moderately response	5	25	6	30
3.	Poor response	-	-	-	-

Figure-24



Inference :

Among 20 out patients, 75% of the cases were Good response, 25% of the cases were moderately response.

Among 20 in patients, 70% of the cases were good response, 30% of the cases were moderately response.

Table-25(a)

LABORATORY INVESTIGATION (OP PATIENTS)

S.No	OP.No	HAEMATOLOGICAL INVESTIGATION												URINE ANALYSIS					
		BEFORE TREATMENT						AFTER TREATMENT						BEFORE TREATMENT			AFTER TREATMENT		
		TC Cell/cumm	DC			ESR mm/hr	Hb gms%	TC Cell/cumm	DC			ESR mm/1hr	Hb gms%	Albumin	Sugar	Deposit epi/puscells	Albumin	Sugar	Deposit epi/puscells
			P %	L%	E %				P%	L%	E %								
1	58343	7300	63	34	3	18	12.9	7400	64	35	2	17	13	Nill	Nill	NAD	Nill	Nill	NAD
2	59216	10000	74	22	4	13	10.4	9000	73	24	3	14	10.7	Nill	Nill	1-2 Puscells	Nill	Nill	NAD
3	59225	9000	66	26	8	12	8.9	9500	67	30	7	12	9.8	Nill	Nill	NAD	Nill	Nill	NAD
4	60125	9400	68	28	4	18	10.1	9200	69	32	4	18	11.6	Nill	Nill	NAD	Nill	Nill	NAD
5	63878	8500	59	30	11	18	11.4	8500	60	32	8	18	12.2	Nill	Nill	NAD	Nill	Nill	NAD
6	100641	8000	60	35	4	22	10	8000	60	36	4	24	10.3	Nill	Nill	NAD	Nill	Nill	NAD
7	100684	8400	60	33	7	8	11.1	8800	62	36	6	9	11.4	Nill	Nill	5-10 puscells	Nill	Nill	1-2 puscells
8	101420	8700	65	38	6	18	11.5	8800	64	37	5	17	11.7	Nill	Nill	NAD	Nill	Nill	NAD
9	105830	7500	64	31	5	13	9.1	7600	70	33	4	14	10	Nill	Nill	1-2 epicells	Nill	Nill	1-2 epicells
10	108506	8500	63	31	6	15	9.8	8600	64	34	5	13	10.1	Nill	Nill	1-2 Puscells	Nill	Nill	NAD
11	109875	8400	65	33	2	16	8.7	8400	65	35	3	12	9.2	Nill	Nill	NAD	Nill	Nill	NAD
12	115043	8500	62	36	4	18	10.4	8700	63	37	4	17	10.8	Nill	Nill	NAD	Nill	Nill	NAD
13	919	7200	60	36	4	22	10.5	8600	64	32	4	9	11.3	Nill	Nill	NAD	Nill	Nill	NAD
14	2561	7000	63	34	3	21	11	7100	63	34	3	20	11.4	Nill	Nill	NAD	Nill	Nill	NAD
15	10297	9000	63	34	3	16	13.6	9300	62	35	3	14	14	Nill	Nill	NAD	Nill	Nill	NAD
16	11982	9500	60	36	4	14	12.2	9000	65	37	4	13	13	Nill	Nill	NAD	Nill	Nill	NAD
17	13102	8800	67	30	3	15	12	8700	70	32	3	11	12.4	Nill	Nill	NAD	Nill	Nill	NAD
18	14728	8900	70	25	5	14	13	8800	73	26	4	12	13.6	Nill	Nill	NAD	Nill	Nill	NAD
19	25992	6600	68	30	2	22	9.9	7000	69	34	3	19	10.4	Nill	Nill	NAD	Nill	Nill	NAD
20	26072	7000	66	31	3	14	11	7200	67	35	4	12	11.5	Nill	Nill	NAD	Nill	Nill	NAD

Table-25(b)

LABORATORY INVESTIGATION (OP PATIENTS)

S.No .	OP.No	BIOCHEMICAL INVVESTIGATION									
		BEFORE TREATMENT					AFTER TREATMENT				
		Sugar mgs %	Urea mgs%	Cholesterol mgs %	Bilirubin mgs%	Creatinine mgs %	Sugar mgs %	Urea mgs %	Cholesterol mgs %	Bilirubin mgs%	Creatinine mgs %
1	58343	137	29	253	0.8	0.5	120	24	200	0.7	0.5
2	59216	95	16	168	0.4	0.9	94	15	167	0.4	0.9
3	59225	119	18	183	0.4	0.7	120	17	190	0.4	0.6
4	60125	70	29	209	0.6	0.5	91	25	172	0.5	0.5
5	63878	123	29	204	0.5	0.7	130	24	202	0.5	0.7
6	100641	98	19	180	0.6	0.9	96	17	192	0.6	0.9
7	100684	86	23	143	0.4	0.6	90	22	150	0.4	0.6
8	101420	106	28	180	0.4	0.5	108	25	147	0.8	0.7
9	105830	92	17	149	0.4	0.5	94	15	140	0.4	0.5
10	108506	82	34	141	0.4	0.7	86	32	137	0.4	0.6
11	109875	95	18	170	0.7	0.8	103	13	185	0.4	0.5
12	115043	70	22	178	0.5	1.0	78	20	180	0.5	0.9
13	919	69	29	143	0.4	1.0	62	23	192	0.6	0.9
14	2561	90	25	189	0.4	0.9	92	22	192	0.4	0.9
15	10297	92	27	197	0.7	0.6	85	23	193	0.5	0.4
16	11982	105	24	175	0.4	0.9	109	21	170	0.7	0.7
17	13102	94	17	193	0.9	0.5	98	19	187	0.6	0.7
18	14728	97	27	184	0.3	0.7	98	25	186	0.4	0.8
19	25992	101	15	167	0.5	0.5	112	15	165	0.5	0.5
20	26072	130	14	193	0.4	0.8	136	13	194	0.4	0.8

Table-26(a)

LABORATORY INVESTIGATION (IP PATIENTS)

S.No.	IP No	HAEMATOLOGICAL INVESTIGAION												URINE ANALYSIS					
		BEFORE TREATMENT						AFTER TREATMENT						BEFORE TREATMENT			AFTER TREATMENT		
		TC Cell/cumm	DC			ESR mm/hr	Hb gms%	TC Cell/cumm	DC			ESR mm/hr	Hb gms%	Albumin	Sugar	Deposit epi/puscells	Albumin	Sugar	Deposit epi/ puscells
			P %	L%	E %				P%	L%	E %								
1	2011	8600	65	32	3	4	12	8800	60	34	4	4	13	Nill	Nill	1-2 Puscells	Nill	Nill	NAD
2	3128	8600	50	40	4	27	10.7	8500	56	40	4	25	11	Nill	Nill	NAD	Nill	Nill	NAD
3	3261	8600	60	38	2	13	9.6	7400	57	37	3	20	8.9	Nill	Nill	Few puscells	Nill	Nill	NAD
4	217	7400	64	34	2	2	14.78	7600	63	33	2	2	15	Nill	Nill	Few puscells	Nill	Nill	NAD
5	218	7000	60	33	7	6	10	7200	62	32	6	5	11	Nill	Nill	NAD	Nill	Nill	NAD
6	498	8500	66	32	2	12	11.8	8700	65	32	3	8	11.4	Nill	Nill	NAD	Nill	Nill	NAD
7	543	9000	63	30	7	12	10.2	8800	64	31	5	12	10.4	Nill	Nill	1-2 puscells	Nill	Nill	NAD
8	544	7000	64	32	4	18	12.8	7400	66	32	4	17	13	Nill	Nill	NAD	Nill	Nill	NAD
9	701	8800	72	22	6	12	9	8400	70	22	5	11	9.6	Nill	Nill	NAD	Nill	Nill	NAD
10	730	6200	58	40	2	23	10.3	6500	59	39	3	20	10.7	Nill	Nill	NAD	Nill	Nill	NAD
11	769	7800	50	47	3	15	11.2	7900	54	46	2	15	11.6	Nill	Nill	NAD	Nill	Nill	NAD
12	796	8000	63	32	5	19	11	7800	60	30	4	16	11.8	Nill	Nill	Few epicells	Nill	Nill	NAD
13	803	8800	65	29	6	22	12.3	8900	66	29	7	21	13	Nill	Nill	1-2 epicells	Nill	Nill	NAD
14	853	6900	63	33	4	15	8.2	7000	65	33	4	14	8.8	Nill	Nill	NAD	Nill	Nill	NAD
15	858	8000	63	34	3	14	8.8	8400	60	34	3	15	9.4	Nill	Nill	NAD	Nill	Nill	NAD
16	939	7900	73	23	4	13	10.5	7800	72	24	4	12	11.5	Nill	Nill	NAD	Nill	Nill	NAD
17	989	6100	60	37	3	20	10.6	6400	61	38	3	18	11.7	Nill	Nill	NAD	Nill	Nill	NAD
18	1029	7700	61	29	1	20	10.3	7400	60	30	1	17	10.8	Nill	Nill	NAD	Nill	Nill	NAD
19	1103	6900	59	37	4	15	10.4	7000	62	37	3	14	11.2	Nill	Nill	Few puscells	Nill	Nill	NAD
20	1175	7000	60	36	3	18	11.1	6800	59	36	4	16	11.9	Nill	Nill	1-2 epicells	Nill	Nill	NAD

Table-26(b)

LABORATORY INVESTIGATION (IP PATIENTS)

S.No .	IP.No	BIOCHEMICAL INVVESTIGATION									
		BEFORE TREATMENT					AFTER TREATMENT				
		Sugar mgs %	Urea mgs%	Cholesterol mgs %	Bilirubin mgs%	Creatinine mgs %	Sugar mgs %	Urea mgs %	Cholesterol mgs %	Bilirubin mgs%	Creatinine mgs %
1	2011	80	20	180	0.5	0.4	79	15	195	0.5	0.5
2	3128	104	32	215	0.6	0.6	95	30	200	0.6	0.6
3	3261	87	25	234	0.5	0.5	96	21	220	0.5	0.4
4	217	138	14	182	0.4	0.6	140	14	179	0.4	0.5
5	218	78	25	130	0.4	0.7	80	22	132	0.4	0.6
6	498	102	21	188	0.7	1.0	108	30	222	0.5	0.8
7	543	103	22	148	0.6	0.7	104	23	150	0.5	0.7
8	544	65	13	201	0.5	0.7	67	14	229	0.4	0.6
9	701	74	16	200	0.5	0.6	78	15	198	0.5	0.6
10	730	105	17	152	0.3	0.6	110	18	162	0.3	0.5
11	769	93	16	173	0.5	0.7	92	14	170	0.5	0.7
12	796	71	17	171	0.4	0.6	94	19	176	0.4	0.6
13	803	86	17	172	0.6	0.7	85	13	178	0.6	0.7
14	853	80	13	162	0.4	0.6	82	14	169	0.4	0.6
15	858	69	17	158	0.3	0.7	70	16	160	0.3	0.7
16	939	68	41	129	0.4	1.2	71	36	130	0.4	0.8
17	989	101	26	121	0.4	0.8	100	27	134	0.4	0.6
18	1029	79	21	128	0.4	0.8	80	20	129	0.4	0.7
19	1103	64	16	149	0.4	0.7	66	18	150	0.3	0.6
20	1175	94	28	149	0.4	0.9	96	26	153	0.4	0.8

Table-27(a)

Case Report OP 20 Patients Treated for Ceganavatham

S.No	OP NO	Name	Age	Sex	Occupation	Duration Of Illness	Date Of Admission	Treatment with drug/dose	Date Of Discharge	Total Number Of Days Treated	Radiological Findings	Result
1	58343	Sekar	43	M	Clerk	6 week	08.07.2017	All are treated with internally Ingi Chooranam 1 gm twice a day with warm water	24.08.2017	48 days	Cervical spondylosis	Good
2	59216	Sankara gomathi	40	F	Beedi worker	5 week	11.07.2017		27.08.2017	48 days		Good
3	59225	Jainudeen	37	M	Driver	1 month	11.07.2017		27.08.2017	48 days		Good
4	60125	Kamala	45	F	Housewife	1 month	14.07.2017		30.08.2017	48 days		Good
5	63878	Muthu lakshmi	42	F	Housewife	8 months	26.07.2017		11.09.2017	48 days		Good
6	100641	Haeir nisha	58	F	Housewife	7 weeks	15.11.2017		01.01.2018	48 days		Fair
7	100684	Kittu	38	M	Clerk	1 month	15.11.2017		01.01.2018	48 days		Good
8	101420	Jeya kumar	32	M	Clerk	1 year	17.11.2017		03.01.2018	48 days		Fair
9	105830	Chithra	32	F	Teacher	2 months	29.11.2017		15.01.2018	48 days		Good
10	108506	Malathi	34	F	Flower string	3 months	08.12.2017		24.01.2018	48 days		Good
11	109875	Kokila	45	F	Housewife	4 months	12.12.2017		28.01.2018	48 days		Fair
12	115043	Papa	42	F	Farmer	5 months	29.12.2017		14.02.2018	48 days		Good
13	919	Subbiah	58	M	Welding	6 months	03.01.2018		19.02.2018	48 days		Good
14	2561	Kalaivani	49	F	Flower string	1 year	06.01.2018		22.02.2018	48 days		Good
15	10297	Packiyam	49	F	Beedi worker	8 months	30.01.2018		18.03.2018	48 days		Fair
16	11982	Merlin	35	F	Flower string	3 months	04.02.2018		23.03.2018	48 days		Good
17	13102	Ayirathan	49	M	Marketing	2 year	07.02.2018		27.03.2018	48 days		Fair
18	14728	Anthonyammal	37	F	Housewife	2 year	12.02.2018		31.03.2018	48 days		Good
19	25992	Murugammal	38	F	Housewife	2months	17.03.2018		04.05.2018	48 days		Good
20	26072	Annal mary	48	F	Tailor	6 months	17.03.2018		04.05.2018	48 days		Good

Table-27(b)

Case Report IP 20 Patients Treated for Ceganavatham

S.No	IP NO	Name	Age	Sex	Occupation	Duration Of Illness	Date Of Admission	Date Of Discharge	Total days		Total Number Of Days Treated	Radiological Findings	Result
									IP	OP			
1	2011	Vishwanathan	45	M	Photography	6 months	12.07.2017	01.09.2017	57	-	57 days	Cervical spondylosis	Fair
2	3128	Villammal	50	F	Farmer	6 months	24.11.2017	28.12.2017	35	13	48 days		Good
3	3261	Senbagavalli	50	F	Housewife	6 months	13.12.2017	31.01.2018	50	-	50 days		Fair
4	217	Karuppasamy	49	M	Farmer	1 year	29.01.2018	17.03.2018	48	-	48 days		Good
5	218	Maduraveeran	32	M	Farmer	2 months	29.01.2018	17.03.2018	48	-	48 days		Fair
6	498	Sornam	50	F	Farmer	6 months	23.02.2018	26.03.2018	32	16	48 days		Good
7	543	Anna lakshmi	45	F	House wife	2 months	28.02.2018	26.03.2018	27	21	48 days		Good
8	544	Paramanantham	52	M	Load man	6 months	28.02.2018	26.03.2018	27	21	48 days		Fair
9	701	Paramasakthi	30	F	Beedi worker	7 months	14.03.2018	13.04.2018	31	17	48 days		Good
10	730	Sekar mani	31	M	Load man	8 months	16.03.2018	10.04.2018	26	22	48 days		Good
11	769	Valliyammal	45	F	Flower string	1 months	20.03.2018	16.04.2018	28	20	48 days		Fair
12	796	Janahi	54	F	Farmer	3 months	22.03.2018	14.04.2018	24	24	48 days		Good
13	803	Athaliga	58	F	House wife	6 months	22.03.2018	14.04.2018	24	24	48 days		Good
14	853	Sutha	27	F	House wife	3 months	29.03.2018	23.04.2018	26	22	48 days		Good
15	858	Sankara eswari	32	F	Beedi worker	7 months	29.03.2018	23.04.2018	26	22	48 days		Good
16	939	Janahi	60	F	farmer	2 year	06.04.2018	30.04.2018	25	23	48 days		Good
17	989	Kuruvammal	50	F	Housewife	8 months	11.04.2018	17.05.2018	37	11	48 days		Good
18	1029	Subbu lakshmi	60	F	Housewife	1 months	16.04.2018	10.05.2018	25	23	48 days		Fair
19	1103	Shanthi	40	F	Load man	3 years	22.04.2018	16.05.2018	25	23	48 days		Good
20	1175	pumadevi	37	F	Housewife	7 months	30.04.2018	23.05.2018	24	24	48 days		Good

BIO- STATISTICS

Evaluation of Pain score

The two tailed p value is less than 0.0001

Table 28 : Pain score – statistical analysis

S.No	Group	Mean ± SEM		T Value	P value	Result
		BT	AT			
1.	Out Patients	69.99 ± 2.12	9.65 ± 1.39	23.76	< 0.0001	HS
2.	In Patients	71.32 ± 2.10	0.96 ± 1.19	25.06	< 0.0001	HS

[n=20] (List wise)

BT - Before treatment

AT - After treatment

HS - Highly significant

SEM- Standard error of the mean

Values are found to be highly significant at P< 0.0001 among the out patients and in patients.

TABLE-29(A)

OP Cases (Pain score)

S.No	OP. No	Before treatment	After Treatment
1.	58343	56%	8%
2.	59216	55.5%	6.6%
3.	59225	48.8%	4.4%
4.	60125	64.4%	6.6%
5.	63878	66.6%	8.8%
6.	100641	82.5%	22.5%
7.	100684	73.3%	2.2%
8.	101420	64.4%	17.7%
9.	105830	75.5%	8.8%
10.	108506	71.1%	6.6%
11.	109875	82.2%	26.6%
12.	115043	70%	7.5%
13.	919	82.2%	6.6%
14.	2561	70%	5%
15.	10297	84.4%	11.1%
16.	11982	68.8%	8.8%
17.	13102	77.7%	15.5%
18.	14728	68.8%	8.8%
19.	25992	71.1%	4.4%
20.	26072	66.6%	6.6%

TABLE-29(B)

IP Cases (Pain score)

S.No	IP. No	Before treatment	After Treatment
1.	2011	82%	16%
2.	3128	57.5%	7.5%
3.	3261	85%	12.5%
4.	217	68%	8%
5.	218	71.1%	15.5%
6.	498	62.5%	7.5%
7.	543	70%	5%
8.	544	84%	14%
9.	701	62.2%	2.2%
10.	730	64.4%	6.6%
11.	769	82.5%	15%
12.	796	75.5%	8.8%
13.	803	62.5%	5%
14.	853	73.3%	8.8%
15.	858	82.2%	7.5%
16.	939	67.5%	7.5%
17.	989	65%	2.5%
18.	1029	87.5%	22.5%
19.	1103	68.8%	4.4%
20.	1175	55%	2.5%

CHAPTER-VI
DISCUSSION

Cegana vatham, described in **"YUGI VAITHYA CHINTHAMANI 800** " was nearly correlated with Cervical spondylosis.

For this clinical trial study totally 40 patients were selected, 20 were treated as out patients and 20 were treated as in patients with clinical trail drug **'INGI CHOORANAM'.** Siddha methods of diagnosis and modern investigations was confirmed the diagnosis and treatment with the trial medicine **INGI CHOORANAM** .

Selection of trial drug :

Biochemical analysis :

The results of Biochemical analysis of "**Ingi Chooranam**" showed that it consists of calcium, sulfate, starch, ferrous iron, unsaturated compound and reducing sugar.

Clinical Trial :

The observations were discussed below

01. Incidence with Sex distribution:

Female ratio was higher when compared to male patients, Among the 20 OP Patients 70% and 20 IP Patients 75% were female.

02. Incidence with Age Distribution:

This study shows statistically significant high incidence of Ceganavatham was above 40 years of age which was already explained by modern science that degeneration due to aging was the important cause of Cervical spondylosis. Among 40 Patients, OP 45 % and IP 40% belong to the age group of 41-50 years.

03. Incidence with Kaalam:

Most of the patients were known to be in Pitha kalam. This information was bestowed by our Siddhars as their wordings. Among 40 patients, OP 90% and IP 75% in pitha kaalam.

The target sites affected in Cervical spondylosis were generally bones, muscles nerves, hairs, blood, urine, fat which are the components of appu and prithivi boothas (Appu + Prithivi = Kabham – responsible for destruction).

04. Incidence with reference to Thega nilai:

Most of the patients were vatha thegi. Among 40 patients 55% in OP and 60% in IP.

05. Incidence with reference to Gunam :

The patients 70% in OP and 60% in IP under this analysis bears Rajogunam, who were more prone to psychological and physical stress.

06. Incidence reference to religion:

Among the 40 patients the incidence was found to be higher in hindus.

(OP-75% and IP-100%)

07. Incidence with Thinai:

The incidence of Ceganavatham was highest in people from Marutham.

Even though Siddha literatures mention Marutham as a disease free zone, most of the patients came from Marutham Nilam. This may be due to the altered lifestyle, environment and food habits. Since this was a single centered study, located in Marutham thinai, it may also have influenced the study.(OP-100% and IP-75%).

08. Distribution according to Paruva Kaalam

Most of the patients came during Munpanikaalam and pinpani kaalam, which indicates the precipitation of this disease in winter season.(OP-30% and 25%, and IP-15% and 50%).

09. Incidence with reference to occupation:

Occupation of most of the patients strained themselves to heavy worker, weight lifter ,tailor etc., This may be the reason for these patients to develop Cegana vatham.

10. Incidence with reference to Diet:

Most of the patients belongs to non vegetarian.(OP-60%& IP-55%)**.**

11. Incidence with reference to Socio Economic Status:

70% of patients in OP and 60% of patients in IP reported the signs and symptoms of Cegana vatham were middle class and this may be indirectly responsible for the higher incidence through their occupation.

12. Incidence with reference to etiological factor:

Age and occupation were the main precipitating factor in majority of the cases.

13. Incidence with reference to mode of onset:

The entire patient was observed in chronic state.

14. Incidence with duration of illness:

Duration of illness in majority of cases was below 12 months.

15. Incidence with Clinical Manifestations:

Pain in the nape of the neck and radiating pain to upper limbs present in all fourty cases 100%. The major symptoms associated very well with the disease as proved by the statistical tests.

16. Incidence with reference to Gnanendrium:

Mei was affected in all cases. (100% in both OP&IP).

17. Incidence with reference to Kanmendrium:

Kai was affected in 100% of both OP& IP cases.

18. Conditions of Mukkuttram:

a. Disturbance in Vatham: Viyanan and Samanan were affected in all 40 cases (100%).The derangements of viyanan produce pain and restricted neck movements. Devathathan was affected in 45% of OP and 55% in IP patients. It produces laziness due to pain. Abanan was affected in 15% of OP and 30% of IP patients. It affects bowel movements and produce constipation

b. Disturbances in Pitham: Sathaga pitham was affected in all 40 cases (100%) which produce difficulty in performing daily regular activities. Analpitham was affected in 15% of OP and 10% of IP patients. Ranjagam was affected in 20% of OP and 60% of IP patients.

c. Disturbance in Kabham: Santhigam was affected in all 40 cases (100%),which produce restricted neck movements

19. Incidence with reference to Udalthathugal:

Saram and enbu were affected in 100% of both OP& IP cases. Disturbance of saram produces symptoms like lethargy and mental depression , whereas the derangement of kozhuppu and enbu produces symptoms like restricted neck movements and osteophytic changes in the cervical vertebrae. Disturbance in senner was associated with anemia.Enbu

affected in 100% of OP and IP patients. Oon affected in 30% of OP and 20% of IP patients. Senner was affected in 20% of OP and 60 % of IP patients.

20. Incidence with reference to Envagai Thervugal:

The analysis showed the efficacy of this method and the prime importance of naadi. In predominant. Sparisam was affected in 55% of OP cases and 65% of IP cases.Sparisam was affected which was response for pain. Malam was affected in 15% of OP and 30% of IP patients. Malam was affected which produce constipation.

21. Incidence with reference to Neikuri:

Neikuri in majority of cases showed that the oil dropped into the urine spreaded like a snake indicating the predominance of vatha neer. (OP -60% and IP- 55%)

22. Incidence with reference to assessment to outcome :

After treatment 75% of OP & 70% of IP cases relieved from pain . 15% of OP and 25% of IP cases had mild pain .10% of OP and 5% of IP cases had moderate pain.

23. Incidence with reference to Radiological studies:

From x-ray cervical spine (AP& Lateral view) 100% cases showed degenerative changes and osteophytic changes.

Narrowing of intervertebral space was seen in 55% 0f OP and 45% of IP cases.

24. Incidence with reference to result:

75% of OP and 70% of IP cases showed good response .25% of OP and 30% of IP cases showed mild response.

25. Incidence with reference to Statistical Analysis:

The pain score statistical analysis among OP and IP was found to be highly significant at $p<0.0001$ from table -28

Modern Aspect investigation:

Clinical laboratory investigation (Blood & Urine) were done on admission to rule out their abnormalities. X-ray were taken to confirm Cegana vatham.

Treatment:

I treated the patients with trial drug **INGI CHOORANAM (internal) – 1 gm twice a day** with **warm water after food for 48 days.** During treatment, the patients were advised to follow pathiyam (avoid tamarind, tubers, etc) and advised to avoid pillows. At the end of result shows very good clinical improvement which was reducing neck pain and improved neck movements.

Pain Reduction:

Pain scale measurement NECK **DISABILITY INDEX** recorded a significant reduction in pain and range of motion. The mean pain score before treatment was 60-80% and after treatment it came down to below 10% (in 70- 75% of cases).

CHAPTER-VII

SUMMARY

20 cases with Cegana vatham were diagnosed clinically and admitted in Inpatients ward and treated with trial medicine. Another 20 cases were treated as out patients ward of post graduate department of **Pothu Maruthuvam**, **Government Siddha Medical College Hospital, palayamkottai**.

- The clinical diagnosis was done on the basis of clinical features described in" **Yugi Vaithya Chinthamani-800"**.
- The trial medicine choosen for the clinical study were **Ingi chooranam** one gram twice daily with warm water.
- The aetiology, pathology, clinical features, classification, and prognosis of the were collected from a number of literatures both in siddha as well as in modern system of medicine.
- Before starting the treatment careful detailed history was carried out and recorded for the fourty selected cases.
- Laboratory diagnosis of Cegana vatham was done by Siddha diagnostic principles and endorsed by modern methods of investigations.
- The trial medicine corrected the deranged uyirthathukkal and udalthathukkal. So the patients were relieved from the symptoms like neck pain, stiffness, radiating pain to the upper limbs. This confirms the efficacy of the trial medicine in curing the disease, normalizing the range of movements in the neck and maintaining the normal health condition also.
- The results were found to be good relief from the symptoms within 20days of treatment in mild case. In moderate cases good relief was found between 25-30 days of treatment. In severe cases mild improvement found after 48 days of treatment.
- During the period of treatment all the patients were put under pathiyam (A specific dietary regimen)
- The relief or improvement was observed only clinically and there was no change in radiological findings.

- As per our siddha materia medica the ingredients of the trial medicine were find to have the property of controlling vatha disease.
- No toxic effects were noticed during the treatment period .All the drugs were put to use only after careful purification process laid down for them individually.
- The observations made during the clinical study shows that the main internal drug **INGI CHOORANAM** is clinically effective.

CHAPTER - VIII
CONCLUSION

The lines that are said in **Yugi vaithiya chinthamani-800** under Cegana vatham explains the clinical conditions as Cervical spondylosis. The lines of this version are well analysed under siddha and modern parameters and the cases are thoroughly examined with clinical and biochemical report.

Treatment is given on the basis of mukkutra theory. The deranged kutrams are made to be normal by the trial medicine.

The trial medicine Ingi chooranam has the taste of kaarupu, inippu, kaippu, thuvarppu according to the taste of individual ingredients.

Kaarpu suvai - has its function of relieving indigestion, flatulence and constipation.
Inippu suvai - regulates the vitiation of vatham and pitham.
Kaippu suvai - regulates the vitiation of pitham, lightens the body and maintains good health.
Thuvarppu suvai- regulates the vitiation of pitham and kapham. Purifies the blood.

Thus the trial drug based of its suvai acts as an effective anti-vatha drug. Almost all the cases treated with the trial drug shows considerable improvements. Further follow up of all patients showed a significant relief of their symptoms.

- 75% of out patients and 70% of in patients showed good response.
- 25% of out patients and 30% of in patients showed moderate response.

I conclude that this trial drug **'INGI CHOORANAM'** has improved the clinical symptoms of the patients and assured them a better standard of living.

ANNEXURE - I

PREPARATION OF TRIAL MEDICINE

INTERNAL MEDICINE

இஞ்சிச் சூரணம்:

"பாகமாயின்னமொரு சூரணங்கேள் பாங்கான இஞ்சிபலம் பத்துவாங்கி,

சோகமாய்தோல்போக்கி வில்லை யாக்கிசுத்தமாய் பொன் வறுப்பாய்வறுத்து,

ஏகமாய்ப்பொடிசெய்து வைத்துக் கொண்டு ஏலமொடு திரிகடுகு கிராம்புழமம்,

தாகமாய் வாலுழுவைச் சாதிக்காயுந் தருவான ஆனை திப்பிலி சீரகமுமாமே.

ஆமப்பா அதிமதுரங் குரோசாணிழமம் அமுக்கிறாகசகசா லவுங்கப்பத்திரி,

நாமப்பாமோடியுடக் கொத்தமல்லி நலமான பேரீச்ச முந்திரிகைழக்க,

தாமப்பா வகைக்குக்காற் பலமேவாங்கித் தருவான இளவறுப்பாய்
சூரணமே செய்து

ழமப்பாசீனிபலம் பத்துக்கூட்டி உத்தமனே மூன்றுமொன்றாய் விரவிக்கொள்ளே.

விரவியேவெருகடிதான் அந்திசந்திவிவரமுடன் மண்டலமே கொண்டாயானால்,

பரவியேமந்தமுட னக்கினிமந்தம் பாங்கான ஊஷ்ணத்தின் வாய்வுங்கூடக்,

கரவியேபித்தமொடு பித்தவாய்வுங் காணாதேழடுமடா தீபனமுண்டாகும்,

பிறவியென்ற**வாதமெல்லா மொடுக்கி**நல்ல பிலமுண்டாமின்னமொரு விவரங்கேளே."

\- **அகஸ்தியமாமுனிவர் பரிபூரணம் - 400 (ப.எண்:57).**

தேவையான சரக்குகள் :

1	இஞ்சி	-	10 பலம்
2	ஏலம்	-	¼ பலம்
3	சுக்கு	-	¼ பலம்
4	மிளகு	-	¼ பலம்
5	திப்பிலி	-	¼ பலம்
6	கிராம்பு	-	¼ பலம்
7	ஓமம்	-	¼ பலம்
8	வாலுழுவை	-	¼ பலம்
9	சாதிக்காய்	-	¼ பலம்
10	யானை திப்பிலி	-	¼ பலம்
11	சீரகம்	-	¼ பலம்
12	அதிமதுரம்	-	¼ பலம்
13	குரோசாணி ஓமம்	-	¼ பலம்
14	அமுக்கரா	-	¼ பலம்
15	கசகசா	-	¼ பலம்
16	இலவங்கபத்திரி	-	¼ பலம்
17	திப்பிலிவேர்	-	¼ பலம்
18	கொத்தமல்லி	-	¼ பலம்
19	பேரீச்சை	-	¼ பலம்
20	முந்திரிகை,	-	¼ பலம்
21	சீனி.	-	10 பலம்

செய்முறை :

இஞ்சியை தோல் நீக்கி வில்லைகளாகச் செய்து சுத்தமாய் பொன்வறுப்பாய் வறுத்து பொடி செய்து வைத்துக் கொண்டு சீனியைத் தவிர ஏனைய சரக்குகளை இளவறுப்பாக வறுத்து சூரணம் செய்து வைத்துக் கொண்டு சீனியையும் பொடி செய்து அனைத்தையும் ஒன்றுபட கலந்து வஸ்திரகாயம் செய்து எடுத்துக் கொள்ள வேண்டும்.

அளவு : வெருக்கடி அளவு (1 கிராம்) தினம் இரு வேளை

அனுபானம் : காய்ந்தாறிய நீர்

தீரும் நோய்கள்: வாதநோய்கள் தீரும்.

1.இஞ்சி:

Botanical name : *Zingiber officinale Rosc*

Family : Zingiberaceae

Parts used : Rhizome

Action : Carminative, stomachic, sialogogue, digestive,stimulant, rubefacient.

சுவை : கார்ப்பு

தன்மை : வெப்பம்

பிரிவு : கார்ப்பு

குணம்:

"இஞ்சிக் கிழங்குக் கிருமல்ஐயம் ஓக்காளம்

வஞ்சிக்குஞ் சன்னிசுரம் வன்பேதி – விஞ்சுகின்ற

சூலையறும் வாதம்போந் தூண்டாத தீபனமாம்

வேலையுறும் கண்ணாய் - விளம்பு"

- **குணபாடம் மூலிகை (ப.எண்: 99)**

2.ஏலம்:

Botanical name : *Elettaria cardamomum,Maton*

Family : Zingiberaceae

Parts used : Fruit

Action : Carminative, stomachic, stimulant..

சுவை : கார்ப்பு

தன்மை : வெப்பம்

பிரிவு : கார்ப்பு

குணம்:

“தொண்டை வாய்கவுள் தாலுகு தங்களில்

தோன்றும் நோயதி சாரம்பன் மேகத்தால்

ஊண்டை போல்எழுங் கட்டி கிரிச்சரம்

ஊழலை வாந்தி சிலந்தி வி ஞ்சுரம்

பண்டை வெக்கை விதாகநோய் காசமும்

பாழுஞ் சோமப் பிணிவிந்து நட்டமும்

அண்டை யீளைவன் பித்தம் இவைக்கெல்லாம்

ஆல மாங்கமழ் ஏல மருந்ததே…”

- **குணபாடம் மூலிகை (ப.எண்:166)**

3.சுக்கு:

Botanical name	:	*Zingiber officinale Rosc*
Family	:	Zingiberaceae
Parts used	:	Dried Rhizome
Action	:	Carminative, stomachic, stimulant
சுவை	:	கார்ப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

“வாதப் பிணிவயி றூதற் செவிவாய்

வுலிதலை வலிகைல வலியிரு விழிநீர்

சீதத் தொடுவரி பேதிப் பலரோ

சிகமலி முகமக முகமிடி கபமார்

சீதச் சுரம்விரி பேதச் சுரநோய்

தெறிபடுமெனமொழி குவர்புவி தனிலே

ஈதுக் குதவுமி தீதுக் குதவா

தெனும்விதி யிலைநவ சுறுகுண முனவே”

-தேரையர் குணவாகடம்

குணப்பாடம் மூலிகை (ப.எண்:471)

4.மிளகு:

Botanical name	:	*Piper nigram. Linn*
Family	:	Piperaceae
Parts used	:	Fruit
Action	:	Acrid, carminative, anti-periodic, stimulant, rubefacient, resolvent, Anti vatha, Antidote.
சுவை	:	கைப்பு, கார்ப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

“அளவையுறாக்காரம் அடைந்திருக்கும் வாத

விளைவையெல் லாமறுக்கும் மெய்யே – மிளகின்காய்

கண்டவர்க்கும் இன்பமாம் காரிகையே! சீழ்மூலங்

கொண்டவர்க்கு நன்மருந்தாங் கூறு”

- குணப்பாடம் மூலிகை (ப.எண்:761)

5.திப்பிலி:

Botanical name	:	*Piper longum. Linn*
Family	:	Piperaceae
Parts used	:	Dried spikes
Action	:	Carminative, stimulant.
சுவை	:	இனிப்பு
தன்மை	:	தட்பம்
பிரிவு	:	இனிப்பு

குணம்:

"இருமல் குன்மம் இரைப்பு கயப்பிணி
ஈளை பாண்டு சந்யாசம் அரோசகம்
பொருமல் ஊதை சிரப்பிணி மூர்ச்சைநோய்
பூரிக் குஞ்சல தோடம் பீலிகமும்
வரும லப்பெருக் கோடு மகோதரம்
வாதம் ஆதிமுத் தோடஞ் சுரங்குளிர்
பெருமாலைப்புரி மேகப் பிடகமும்
பேருந் திப்பிலிப் பேரங்குரைக்கவே"

- குணப்பாடம் மூலிகை (ப.எண்:515)

6.கிராம்பு:

Botanical name	:	*Syzygium aromaticum Linn*
Family	:	Myrtaceae
Parts used	:	Flower bud
Action	:	Carminative, stomachic, anti spasmodic

சுவை	:	காரமும் விறுவிறுப்புமமுள்ளது
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

“பித்த மயக்கம் பேதியொடு வாந்தியும்போம்

சுத்தவிரத் தக்கடுப்புந் தோன்றுமோ – மெத்த

இலவங்கங் கொண்டவருக் கேற் சுகமாகும்

மலமங்கே கட்டுமென வாழ்த்து.

சுக்கிலநட் டங்கர்ண சூர்வியங்க லாஞ்சனந்தாட்

சிக்கல்விடாச் சர்வா சியப்பிணியு – மக்கிக்குட்

டுங்கப் பூவோடு தரிபடருந் தோன்றிலில்

வங்கப்பூ வோடுரைத்து வா”

- குணப்பாடம் மூலிகை (ப.எண்:112).

7.ஓமம்:

Botanical name	:	*Carum copticum*
Family	:	Apiaceae
Parts used	:	Seed
Action	:	Carminative, stimulant, anti spasmodic, stomachic, anti septic, tonic,
சுவை	:	கார்ப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

"சீதசுரங் காசஞ் செரியாமந் தம்பொருமல்

பேதியிரைச் சல்கடுப்பு பேராமம் - ஓதிருமல்

பல்லோடுபல் மூலம் பகமிவைநோ யென்செயுமோ?

சொல்லோடுபோம் ஓமமெனச் சொல்"

- **குணப்பாடம் மூலிகை (ப.எண்:174).**

8.வாலுளுவை:

Botanical name	:	*Celastrus paniculatus*
Family	:	Celastraceae
Parts used	:	Seed
Action	:	Stimulant, Aphrodisiac, alternative, diaphoretic, nervine tonic diaphoretic, nervine tonic
சுவை	:	கைப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

"வயிற்றுக் கடுப்புவலி மாறாக் கிராணி

பயித்தியங் காசமல பந்தஞ் - சயிக்கவொணாச்

சூதிகா வாதமும் போந் தொல்வா லுளுவைவிதைக்

குதிநவ சித்தர் மொழி யாம்"

-குணப்பாடம் மூலிகை (ப.எண்:808).

9.சாதிக்காய்:

Botanical name	:	*Myristica fragrans*
Family	:	Myristicaceae
Parts used	:	Seed
Action	:	Stimulant, carminative, Aphrodisiac, tonic ,narcotic, aromatic
சுவை	:	துவர்ப்பு, கார்ப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

"தாது நட்டம் பேதி சருவாசி யஞ்சிர நோய்

ஓதுசுவா சங்காசம் உட்கிரணி – வேதோ

டிலக்காய் வரும்பிணிபோம் ஏற்றமயல் பித்தங்

குலக்கா யருந்துவர்க்குக் கூறு"

- குணப்பாடம் முலிகை (ப.எண்:431).

10. .யானை திப்பிலி:

Botanical name	:	*Scindapsus officinalis*
Family	:	Araceae
Parts used	:	Dried spike
Action	:	Stimulant, stomachic, anthelmintic, diaphoretic
சுவை	:	கார்ப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

“மாதமறுந் தீபனமா மாறாக் கபங்கரப்பான்

ஓதுகுரற் கம்மலியை யோடுங்காண் - பூதலத்திற்

சோனையைநேர் நாசினீர் தோலாச்சு வாசமும்போம்

யானையினற் றிப்பலிய தால்”

- குணப்பாடம் மூலிகை (ப.எண்:518).

11.சீரகம்:

Botanical name	:	*Cuminum cyminum*
Family	:	Apiaceae
Parts used	:	Fruit
Action	:	Stimulant, stomachic, carminative, astringent
சுவை	:	கார்ப்பு, இனிப்பு
தன்மை	:	தட்பம்
பிரிவு	:	இனிப்பு

குணம்:

“வாயுவொடு நாசிநோய் வன்பித்தஞ் சேராது

காயம் நெகிழாது கண்குளிருந் - தூயமலர்க்

காரளகப் பெண்மயிலே! கைகண்ட தித்தனையுஞ்

சீரகத்தை நீதினமும் தின்”

- **ஆகத்தியர் குணவாகடம்**
  குணப்பாடம் மூலிகை (ப.எண்:460).

12.அதிமதுரம்:

Botanical name	:	*Glycyrrhiza glabra, Linn*
Family	:	Apiaceae
Parts used	:	Fruit
Action	:	Stimulant, stomachic, carminative, astringent
சுவை	:	கார்ப்பு, இனிப்பு
தன்மை	:	தட்பம்
பிரிவு	:	இனிப்பு

குணம்:

"கத்தியரி முப்பிணியால் வருபுண் தாகங்

கண்ணோய்உன் மாதம்விக்கல் வலிவெண் குட்டம்

பித்தமெலும் புருக்கி கிரிச்சரம் ஆவர்த்த

பித்தமத மூர்ச்சை விட பாகம் வெப்பந்

தத்திவரு வாதசோ ணிதங்கா மாலை

சருவவிடங் காமியநோய் தாது நட்டங்

குத்திருமல் ஆசியங்கம் இதழ்நோய் இந்து

குயப்புணும்போம் மதூகமெனக் கூறுங் காலே"

- குணப்பாடம் மூலிகை (ப.எண்:14).

13.குரோசாணி ஓமம்:

Botanical name	:	*Hyoscyamus niger*
Family	:	Solanaceae
Parts used	:	Seed
Action	:	Anti spasmodic, sedative, hypnotic, anodyne, mild diuretic

சுவை	:	கார்ப்பு, சிறு கைப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

"வெகுமூத் திரம்வாதம் வீரியநட் டம்புண்

உகுபேதி யுட்கடுப்பி னோடே – மிகுகரப்பான்

தீராக் கபமிவைபோம் செய்யகு ரோசானியென்றால்

வாரா மயக்கமுறு மால்"

- **குணப்பாடம் மூலிகை (ப.எண்:176).**

14.அமுக்கரா:

Botanical name	:	*Withania somnifera*
Family	:	Root
Parts used	:	Seed
Action	:	Alterative, aphrodisiac, deobstruent, diuretic, tonic, soporific, sedative.
சுவை	:	கைப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

"கொஞ்சந் துவர்ப்பாங் கொடியகயம் சூலையரி

மிஞ்சுகரப் பான்பாண்டு வெப்பதப்பு – விஞ்சி

முசுவுறு தோடமும்போ மோகம்அன லுண்டாம்

அசுவகந் திக்கென் றறி"

- **குணப்பாடம் மூலிகை (ப.எண்:30).**

15.கசகசா:

Botanical name	:	*Papaver somniferum*
Family	:	Papaveraceae
Parts used	:	Seed
Action	:	Demulcent, nutritive, astringent (mild)
சுவை	:	இனிப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	இனிப்பு

குணம்:

"கிருமி நமைச்சல் கிராணியதி சாரஞ்

சிரநீர் அநித்திரைபோஞ் செப்பில் - உருவழகுங்

காந்தியுமுண் டாகுங் கசகசா வின்குணத்தைத்

தேர்ந்தவர்க்கு விந்துவுமாந் தேர்"

- **குணப்பாடம் மூலிகை (ப.எண்:181).**

16.இலவங்கப்பத்திரி:

Botanical name	:	*Cinnamomum tamala*
Family	:	Lauraceae
Parts used	:	Leaf
Action	:	Stimulant, carminative, stomachic, diaphoretic
சுவை	:	கார்ப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

“மேகசுரம் சீதசுரம் வெட்டைசுவா சங்காசம்

தாகபித்தம் வாந்திசர் வாசியநோய் - மேகத்தின்

கட்டியொடு தாதுநட்டங் கைப்பருசி போக்கிவிடும்

இட்டஇல வங்கத் திலை”

- **குணப்பாடம் மூலிகை (ப.எண்:115).**

17. திப்பிலிவேர் :

Botanical name	:	*Piper longum*
Family	:	Piperaceae
Parts used	:	Root
Action	:	Stimulant, carminative, stomachic, diaphoretic
சுவை	:	கார்ப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

“தாகபித்தஞ் சோகந் தணியாச் சுரமிருமல்

மேகங் குரற்கம்மல் மெய்க்கடுப்பும் - ஏகுங்காண்

திப்பிலிமூ லங்கண்டத் திப்பிலிய தாம்நறுக்குத்

திப்பிலியென் றேயொருக்காற் செப்பு”

- **குணப்பாடம் மூலிகை (ப.எண்:517).**

18. .கொத்தமல்லி:

Botanical name	:	*Coriandrum sativum*
Family	:	Apiaceae
Parts used	:	Dried fruit

Action	:	Stomachic, carminative, stimulant, diuretic
சுவை	:	கார்ப்பு
தன்மை	:	சீத வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

"கொத்தமல்லி வெப்பம் குளிர்காய்ச்சல் பித்தமந்தஞ்

சர்த்திவிக்கல் தாகமொடு தாதுநட்டம் - கத்தியெழும்

வாத விகார்மடர் வன்கர்த்த பிவிரணம்

பூதலத்தில் லாதகற்றும் போற்று"

- **குணப்பாடம் மூலிகை (ப.எண்:390).**

19.பேரீச்சை:

Botanical name	:	*Phoenix dactylifera*
Family	:	Arecaceae
Parts used	:	Fruit
Action	:	Febrifuge, refrigerant, laxative, stomachic, expectorant, aphrodisiac
சுவை	:	இனிப்பு
தன்மை	:	வெப்பம்
பிரிவு	:	கார்ப்பு

குணம்:

"பேரீந்தெனுங்கனிக்குப் பித்தமத மூர்ச்சைசுரம்

நீரார்ந்த ஐயம் நெடுந்தாகம் - பேரர

இரத்தபித்த நீரிழிவி லைப்பறும் அரோசி

உரத்தமலக் கட்டுமறும் ஓது"

- **குணப்பாடம் மூலிகை (ப.எண்:128).**

20. முந்திரிகை:

Botanical name	:	*Vitis vinifera*
Family	:	Vitaceae
Parts used	:	Dried Fruit
Action	:	Laxative, demulcent
சுவை	:	இனிப்பு
தன்மை	:	தட்பம்
பிரிவு	:	இனிப்பு

21.சீனி சர்க்கரை:

Botanical name	:	*Saccharum officinarum ,Linn*
Family	:	Poaceae
Parts used	:	Juice
Action	:	Antiseptic, demulcent
சுவை	:	இனிப்பு
தன்மை	:	சீதம்
பிரிவு	:	இனிப்பு

குணம்:

"சீனிச் சர்க்கரைக்குத் தீராத வன்சுரமுங்

கூனிக்கும் வாதத்தின் கூட்டுறவும் - ஏனிற்கும்

வாந்தி யொடுகிருமி மாறாத விக்கலுமே

போந்திசையை விட்டுப் புரண்டு"

- **குணப்பாடம் மூலிகை (ப.எண்:238).**

ANNEXURE-II

BIO-CHEMICAL ANALYSIS OF "INGI CHOORANAM"

Preparation of the extract:

5gms of the drug was weighed accurately and placed in a 250ml clean beaker then 50ml of distilled water is added and dissolved well. Then it is boiled well for about 10 minutes. It is cooled and filtered in a 100ml volumetric flask and then it is made to 100ml with distilled water. This fluid is taken for analysis.

QUALITATIVE ANALYSIS

S.NO	EXPERIMENT	OBSERVATION	INFERENCE
1.	**TEST FOR CALCIUM** 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution.	A white precipitate is formed.	Indicates the presence of calcium.
2.	**TEST FOR SULPHATE** 2ml of the extract is added to 5% barium chloride solution.	A white precipitate is formed.	Indicates the presence of sulphate.
3.	**TEST FOR CHLORIDE** The extract is treated with silver nitrate solution.	No white precipitate is formed.	Absence of chloride.
4.	**TEST FOR CARBONATE** The substance is treated with concentrate HCl.	No brisk effervescence is formed.	Absence of carbonate.
5.	**TEST FOR STARCH** The extract is added with weak iodine solution.	Blue colour is formed.	Indicates the presence of starch.
6.	**TEST FOR FERRIC IRON** The extract is acidified with glacial acetic acid and potassium ferro cyanide.	No blue colour is formed.	Absence of ferric iron.
7.	**TEST FOR FERROUS IRON** The extract is treated with concentrated nitric acid and ammonium thiocyanate solution.	Blood red colour is formed.	Indicates the presence of ferrous iron.
8.	**TEST FOR PHOSPHATE** The extract is treated with ammonium molybdate and concentrated nitric acid.	No yellow precipitate is formed.	Absence of phosphate.

9.	**TEST FOR ALBUMIN** The extract is treated with Esbach's reagent.	No yellow precipitate is formed.	Absence of albumin.
10.	**TEST FOR TANNIC ACID** The extract is treated with ferric chloride.	No blue black precipitate is formed.	Absence of tannic acid.
11.	**TEST FOR UNSATURATION** Potassium permanganate solution is added to the extract.	It gets decolourised.	Indicates the presence of unsaturated compound**.**
12.	**TEST FOR THE REDUCING SUGAR** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and add 8-10 drops of the extract and again boil it for 2 minutes.	Colour change occurs.	Indicates the presence of reducing sugar.
13.	**TEST FOR AMINO ACID** one or two drops of the extract is placed on a filter paper and dried well. After drying, 1% ninhydrin is sprayed over the same and dried it well.	No violet colour is formed.	Absences os amino acid.
14.	**TEST FOR ZINC** The extract is treated with potassium ferro cyanide.	No white precipitate is formed.	Absence of zinc.

INFERENCE:

The extract prepared from the given sample **INGI CHOORANAM** contains Calcium, Sulphate, Starch, Ferrous iron, Unsaturated compound, Reducing sugar in Bio-chemical analysis was done by Department of Bio-chemistry Government Siddha Medical college, palayamkottai.

ANNEXURE – III

ANALGESIC ACTIVITY

Analgesic activity of siddha formulation Ingi Chooranam was evaluated by acetic acid induced writhing reflux in mice. Painful reaction in animals may be produced by the chemicals such as phenylquinone, bradykinin etc. Like that, acetic acid pain reaction which is characterized as a writhing response. Construction of abdomen, turning of trunk (twist) and extension of hind legs are taken as reaction to chemically induced pain. Analgesics (both narcotic and non-narcotic) inhibit writhing response.

REQUIREMENTS:

Animal : Swiss albino mice (20-25g) either sex

Drugs and chemicals : Diclofenac sodium (standard),

Acetic acid (1%v/v), Ingi Chooranam

METHOD:

TREATMENT PROTOCOL

Group-1 Treated as normal control received 10ml/kg of normal saline through orally.

Group-2 Treated as Standard control received 10mg/kg of diclofenac sodium through Intraperitonealy.

Group-3 Treated as treatment control received 100mg/kg of Ingi Chooranam administered through orally.

Group-4 Treated as treatment control received 200mg/kg of Ingi Chooranam administered through orally.

Siddha formulation Ingi Chooranam was administered one hour prior to the acetic acid administration. Note the onset on writhing. Record the numbers of abdominal contractions, trunk twist and extension of hind limbs as well as the number of animals showing such response during a period of 10 minutes were noted.

STATISTICS:

Data are expressed as mean ± SEM; data analyzed by one way ANOVA followed by Newman's keul's multiple range tests to determine the significance of the difference between the control group and rats treated with the extracts.

* Values were considered significant at P< 0.01.

TABLE No.1

ANALGESIC ACTIVITY OF INGI CHOORANAM BY ACETIC ACID INDUCED WRITHING REFLUX IN MICE

Treatment	Dose (mg/kg)	No. of writhing	% reduction in reaction time
Group I Normal saline	Inject 1%v/v acetic acid 1ml/100g of body weight	49.3±2.95	-
Group II Std	10mg/kg I.P.Diclofenac sodium	14.3±0.78	49.00%**
Group III Ingi Chooranam	100mg/kg Administered through orally.	22.4±1.48	48.84%**
Group IV Ingi Chooranam	200mg/kg Administered through orally	20.4±1.26	48.88%**

Values are expressed as mean±SEM

Values were find out by using one-way ANOVA followed by Newman's keuls multiple range tests.

** Values were considered significant at P< 0.01.

RESULTS

The table values show that analgesic activity of Ingi Chooranam by acetic acid induced writhing reflex. The results reveals that both dose of Ingi Chooranam possess significant analgesic activity at p<0.01.

ANTI-INFLAMMATORY ACTIVITY OF SIDDHA FORMULATION

INGI CHOORANAM

The anti-inflammatory activities of **siddha formulation Ingi Chooranam** at a dose of 100 and 200mg/kg were evaluated using carrageenan-induced paw edema method. The inflammation was readily produced in the form of edema with the help of irritant such as carrageenan. Carrageenan is a sulphated polysaccharide obtained from sea weed (Rhodophyceae) and when injected cause the release of prostaglandins by the way it produces inflammation and edema.

REQUIREMENTS:

Animal : Albino rat (180-200 g)

Drugs and chemicals : Carrageenan (1%w/v), Diclofenac sodium (standard),

Carboxy methyl cellulose (1%w/v),

Digital plethysmo meter. U G O Basile (Italy)

Test compounds : siddha formulation **Ingi Chooranam**

METHOD:

Anti-inflammatory activity was performed by the following procedure of Bhandri et al(1) The animals were divided into 4 groups each having six animals. A freshly prepared suspension of carrageenan (1% w/v , 0.1 ml) was injected to the planter region of left hind paw of each rat. One group was kept as control and the animals of the other groups were pretreated with the siddha formulation **Ingi Chooranam** test Compounds dissolved with 2 ml sterile water given through orally 30 min before the carrageenan treatment. The paw volumes of the test compounds, standard and control groups were measured at 60,240,360 minutes of carrageenan treatment with the help of Digital plethysmometer (Ugo basile, Italy). Mean increase in paw volume was measured and the percentage of inhibition was calculated.

% Anti-inflammatory activity = (Vc-Vt / Vc)* x *100

Where, ***Vt***-mean increase in paw volume in rats treated with test compounds,

Vc-mean increase in paw volume in control group of rats.

TABLE No.1

ANTI-INFLAMMATORY ACTIVITY OF SIDDHA FORMULATION

INGI CHOORANAM

Treatment	Dose (mg/kg)	Paw volume(ml) as measured by mercury displacement at 6 hour	Percentage inhibition of paw edema
Group I Normal saline	10ml/kg orally	5.54±0.92	-
Group II Std	10mg/kg I.P.Diclofenac sodium	1.70±0.40	69.31%*a
Group III Ingi Chooranam	100mg/kg.Orally.	2.10±0.53	62.09%*a
Group IV Ingi Chooranam	200mg/kg.Orally.	1.95±0.43	64.80%*a

* Data are expressed as Mean ± S.E.M.

*Data were analyzed by one way ANOVA followed by Newman's keul's multiple range tests, to determine the significance of the difference between the control group and rats treated with the test compounds.

*a Values were significantly different from normal control at P< 0.01.

Results

Anti- inflammatory activity

Both doses of siddha formulation **Ingi Chooranam** at 100mg/kg and 200mg/kg were tested for their Anti- inflammatory activity by using carrageenan Induced rat paw edema method and the results are tabulated in table no 1. The results reveals that both doses of siddha formulation **Ingi Chooranam** at 100mg/kg and 200mg/kg doses possesses significant Anti- inflammatory activity when compared to control group at p<0.01.

ANNEXURE-IV

Acute toxicity study of Ingi Chooranam

Determination of acute oral toxicity is usually the initial screening step in the assessment and evaluation of the toxic characteristics of all compounds. The types of toxicity tests which are routinely performed by pharmaceutical manufacturers in the investigation of a new drug involve acute, sub-acute and chronic toxicity. Acute toxicity is involved in estimation of LD_{50} (the dose which has proved to be lethal (causing death) to 50% of the tested group of animals) (Shetty Akhila, *et al.,* 2007).(1)

Method: Acute oral toxicity of Ingi Chooranam is carried out as per the guidelines Organization of Economic Co-operation and Development (OECD) -423 guidelines after the animal ethical clearance from Institutional Animal Ethics Committee.

The albino mice are fasted over night and provided only water, after which the **Ingi Chooranam** is administered by gastric intubations to the relevant group of animals orally at the dose of 50 $mg.kg^{-1}$ body weight in Tween-80. The animals are then observed for 14 days and maintained with normal food. A mortality rate of 2 or 3 animals in 14 days is recorded and the dose is said to be toxic dose. But when mortality of one animal is observed, then the same dose is repeated again for confirmation. However, if mortality is not observed, the procedure is repeated for further higher doses such as 300 and 2,000 $mg.kg^{-1}$ body weight. Toxic symptoms are observed for 72 hrs including behavioral changes, locomotion, convulsions and mortality (Shah Ayub, 1997, Bürger, 2005).(2,3).

Cage Side Observations

Observations include changes in skin and fur, eyes and mucous membranes, and also respiratory, circulatory, autonomic and central nervous systems, and somatomotor activity and behavior pattern. Special attention is directed for the observation of tremors, convulsions, salivation, diarrhea, lethargy, sleep and coma.

Body Weight, Food and Water Intake

Body weight, food and water intake are recorded at two-day intervals.

Pathology

Surviving animals are fasted overnight, weighed and humanely killed on the 15th day using anesthetic ether. All test animals are subjected to gross necropsy.

Subchronic test for Ingi Chooranam

This experiment evaluates the toxicity potential of Ingi Chooranam.

Method: Male and female Wistar rats weighing 180 ± 10 g are used for the present study. The animals are divided into five groups of six animals each. The dose of the preparation is calculated based on the body weight of the animal. The animals in Group I are administered with a single daily dose of 0.5 ml of Tween 80 orally for 20 days. The animals in Group II are administered with 50 $mg.kg^{-1}$b.w. of the Ingi Chooranam orally once daily for 20 days. The animals in Group III are administered with 100 $mg.kg^{-1}$b.w. of the Ingi Chooranamorally once daily for 20 days. The animals in Group IV and V are administered once daily with 200 and 400 $mg.kg^{-1}$b.w. of the Ingi Chooranam respectively for 20 days orally (Pieme,*et al* 2006, Joshi, *et al* 2007, Mythilypriya, *et al.,* 2007).(4,5,6)The animals are then weighed every five days, from the start of the treatment, to record the weight variation. At the end of the treatment, blood samples are collected by puncturing retro orbital plexus after mild anesthesia for biochemical analysis. The collected blood sample is centrifuged within 5 min of collection at 4000 g for 10 min to obtain plasma, which is analyzed for total cholesterol, total triglyceride, HDL-cholesterol levels,LDL-cholesterol,plasma glucose, alanine aminotransferase (ALT), aspartate aminotransferase (AST), creatinine and urea.

Results

Acute toxicity study with Ingi Chooranam

The acute toxicity of Ingi Chooranam was evaluated using OECD- 423 guidelines. There was no mortality or morbidity observed in animals through the 15-days period following single oral administration at all selected dose levels of the Ingi Chooranam (Table-1). The animals did not show any changes in the general appearance during the observation period. Morphological characteristics such as fur, skin, eyes and nose appeared normal. No tremors, convulsion, salivation, diarrhea, lethargy or unusual behaviors such as self mutilation, walking backward and

so forth were observed. Gait and posture, reactivity to handling or sensory stimuli, grip strength was also normal.

	Dose ($mg.kg^{-1}$)	Sign of Toxicity ($ST.NB^{-1}$)	Mortality ($D.S^{-1}$)
Group I	0	0/3	0/3
Group II	300	0/3	0/3
Group III	2000	0/3	3/3

Table.1. Acute toxicity studyof Ingi Chooranamon experimental mice. The acute toxicityof Ingi Chooranamon experimental mice was tested using OECD-423 guidelines, where ST- sign of toxicity; NB- normal behaviour; D- died; S- survive. Values are expressed as number of animals (n=3).

Effect of Ingi Chooranam in Subchronic Toxicity

Ingi Chooranam were evaluated for subchronic toxicity.

Effect of Ingi Chooranamon body weight changes in rats

The effect of Ingi Chooranam was observed for their effect on the body weight changes from the study it was observed that, there was significant increase ($p<0.05$) in body weight in all the animals observed. The results are shown in Table.2.

Treatment	Day 1	Day 5	Day 10	Day 20
Control	176.19±5.4	177.40 ±6.14	186.10 ±6.32	186.6±6.29
Ingi Chooranam **50 $mg.kg^{-1}$**	183.34 ±6.2	186.30 ±6.46	187.48 ±6.77	187.30±6.83*
Ingi Chooranam **100 $mg.kg^{-1}$**	176.36 ±6.0	183.43 ±6.44	185.30 ±6.56	187.84±6.69*
Ingi Chooranam **200 $mg.kg^{-1}$**	185.25 ±7.0	187.20±6.36	187.48 ±6.60**	195.35±6.72**
Ingi Chooranam **400 $mg.kg^{-1}$**	176.54 ±6.34	184.35 ±6.67	185.15 ±6.67**	193.52±6.73**

Table.2.The effects of **Ingi Chooranam**on body weight changes in rats. A study on the effects of **Ingi Chooranam**on body weight changes in rats was carried out.. where, group I animals (GPI) were treated with normal saline (5 ml.kg^{-1}), group II animals (GPII) with 50 mg.kg^{-1} of **Ingi Chooranam**, group III animals (GPIII) with 100 mg.kg^{-1} of **Ingi Chooranam**, group IV animals (GPIV) with 200 mg.kg^{-1} of **Ingi Chooranam**, group V animals (GPV) with 400 mg.kg^{-1}**Ingi Chooranam**. The values are expressed as mean ± S.E.M. n=6. The results of group I were compared with other groups such as II, III, IV, and V. The statistical analysis was carried out using one way ANOVA method, where **P<0.01 *P<0.05.

Effect of Ingi Chooranamon kidney,heart, liver and brain in rats.

The effects of **Ingi Chooranam** on kidney, heart, liver and brain of the rats were observed. From the study it was clear that, significant (p<0.01) changes in the weights of various organs of the animals occurred with higher doses of the extract (400 mg.kg^{-1}bwt), but macroscopic examinations did not show any changes in colour of the organs of the treated animals compared with the control. The results are shown in Table.3.

Treatment	**Heart (gms)**	**Kidney (gms)**	**Liver (gms)**	**Brain (gms)**
Control	0.36 ± 0.04	0.74± 0.03	3.34± 0.14	0.73± 0.05
Ingi Chooranam@50 mg.kg^{-1}	0.38± 0.05	0.84± 0.05	3.44± 0.19	0.71± 0.03
Ingi Chooranam@100 mg.kg^{-1}	0.41± 0.06	0.84± 0.04	3.46±0.21	0.69± 0.08
Ingi Chooranam@ 200 mg.kg^{-1}	0.36± 0.03	0.77± 0.02	3.38± 0.22	0.77± 0.09
Ingi Chooranam@400 mg.kg^{-1}	0.39± 0.05	0.76± 0.02	3.40± 0.15	0.76± 0.12

Table.3.The effects of **Ingi Chooranam**on kidney, heart, liver and brain of the rats. A study on the effects of **Ingi Chooranam** on kidney, heart, liver and brain of the rats was tested. where, group I animals (GPI) treated with normal saline (5 ml.kg^{-1}), group II animals (GPII) with 50 mg.kg^{-1} of **Ingi Chooranam**, group III animals (GPIII) with 100 mg.kg^{-1} of **Ingi Chooranam**,

group IV animals (GPIV) with 200 mg.kg^{-1} of **Ingi Chooranam**, group V animals (GPV) with 400 mg.kg^{-1}**Ingi Chooranam**. The values are expressed as mean ± S.E.M. n=6. The results of group I were compared with other groups such as II, III, IV, and V. The statistical analysis was carried out using one way ANOVA method, where **P<0.01.

Effect of Ingi Chooranam on biochemical profiles of rats

The effect of **Ingi Chooranam** on various biochemical parameters of the experimental animal 'rats' were tested. From the study it was evident that, there was significant decrease ($p<0.05$) in the plasma glucose level in treated rats especially at higher dose (400 mg.kg^{-1}) compared with control rats. The control rats were administered only with 5 ml of normal saline. Significant decrease ($p<0.05$) in the plasma total cholesterol (TC), triglyceride (TG) and LDL-cholesterol levels were observed. But a significant increase ($p<0.05$) in HDL-cholesterol levels were observed in all the treated animals compared with the control animals. AST, ALT and ALP levels were also normal in the **Ingi Chooranam** treated animals. From the results of biochemical study there was no evidence of severe toxicity associated with the administration of higher concentration of **Ingi Chooranam**. The results are shown in Table.4

Treatment	Glucose (mg.dl^{-1})	Cholesterol (mg.dl^{-1})	Triglyceride (mg.dl^{-1})	HDL (mg.dl^{-1})	LDL (mg.dl^{-1})
Control	94.42±1.74	29.05± 0.62	28.25±1.43	138.45±3.15	85.30±1.85
Ingi Chooranam@ 50 mg.kg^{-1}	92.50±1.62	25.30± 0.36*	12.36± 0.85*	176.40±3.65*	70.75±1.38
Ingi Chooranam@ 100 mg.kg^{-1}	90.44±1.52	23.65± 0.30*	13.32± 0.90*	165.30±3.40*	69.54±1.30
Ingi Chooranam@ 200 mg.kg^{-1}	89.30±1.35**	24.20± 0.38	15.40± 0.92*	184.34±3.70*	46.52±1.18
Ingi Chooranam@ 400 mg.kg^{-1}	92.28±1.43**	30.45± 0.48	18.30±1.15*	182.24±3.66*	45.30±1.05

Table.4.The effect of **Ingi Chooranam**on biochemical parameters such as glucose, cholesterol, triglyceride, HDL and LDL. A study on the effect of **Ingi Chooranam** on biochemical

parameters such as glucose, cholesterol, triglyceride, HDL and LDL in rats was tested.where, group I animals (GPI) treated with normal saline (5 ml.kg^{-1}), group II animals (GPII) with 50 mg.kg^{-1} of **Ingi Chooranam**, group III animals (GPIII) with 100 mg.kg^{-1} of **Ingi Chooranam**, group IV animals (GPIV) with 200 mg.kg^{-1} of, group V animals (GPV) with 400 mg.kg^{-1}**Ingi Chooranam**. The values are expressed as mean ± S.E.M. n=6. The results of group I were compared with other groups such as II, III, IV, and V. The statistical analysis was carried out using one way ANOVA method, where **P<0.01 *P<0.05

Treatment	AST (IU.l^{-1})	ALT (IU.l^{-1})	ALP (IU.l^{-1})	TP (g.l^{-1})	ALBUMIN (g.l^{-1})
Control	333.3±11.60	78.4± 3.42	258.35± 8.60	76.36± 3.31	46.30±2.45
Ingi Chooranam@50 mg.kg^{-1}	323.4±10.52**	76.3± 2.90**	270.15±8.75**	76.30±3.20	43.24±2.30
Ingi Chooranam@ 100 mg.kg^{-1}	323.5±10.60**	73.3±2.92**	271.38±8.30**	86.12±3.80	44.30±2.45
Ingi Chooranam@ 200 mg.kg^{-1}	321.5±9.90	70.3± 2.38	271.20±8.36	77.35± 3.65	45.28±2.46
Ingi Chooranam@ 400 mg.kg^{-1}	323.4±9.94	70.6±2.45	271.42±8.44	78.30± 3.75	45.64±2.50

Table.5.The effects of **Ingi Chooranam**on biochemical parameters such as AST, ALT, ALP, TP and Albumin in rats. A study on the effects of **Ingi Chooranam**on biochemical parameters such as AST, ALT, ALP, TP and Albumin rats was tested. where, group I animals (GPI) were treated with normal saline (5ml.kg^{-1}), group II animals (GPII) with 50 mg.kg^{-1} of HAEBD group III animals (GPIII) with 100 mg.kg^{-1} of **Ingi Chooranam**, group IV animals (GPIV) with 200

mg.kg^{-1} of **Ingi Chooranam**, and group V animals (GPV) with 400 mg.kg^{-1}**Ingi Chooranam** The values are expressed as mean ± S.E.M. n=6. The results of group I were compared with other groups such as II, III, IV, and V. The statistical analysis was carried out using one way ANOVA method, where **P<0.01 *P<0.05.

Effect of Ingi Chooranam on haematological parameters in rats

The effects of **Ingi Chooranam** were observed for its effect on haematological parameters on the experimental rats. From the study it was evident that, a significant increase (p<0.01) were observed in the haemoglobin contents and RBC count in the group treated with 200 mg.kg^{-1} body weight of **Ingi Chooranam** and a significant decrease of the parameters occurred in the group treated with 400 mg.kg^{-1} b.w.t compared with the control. There was no significant change in the calcium level in all the treated animals compared to the control.

Treatment	Haemoglobin (mg.dl^{-1})	RBC (10^6 /mm^3)	WBC (10^6 /mm^3)	Calcium (mg.dl^{-1})
Control	13.58±1.28	9.30± 0.93	11.57± 0.90	9.46 ±0.60
Ingi Chooranam@ 50 mg.kg^{-1}	14.42±1.35*	9.38±1.05*	9.36± 0.82*	9.28 ±0.38
Ingi Chooranam@ 100 mg.kg^{-1}	14.27±1.84*	9.53±1.20*	8.35± 0.28*	9.30 ±0.45
Ingi Chooranam@ 200 mg.kg^{-1}	13.30±1.25*	8.42± 0.85*	11.59± 0.83*	9.58 ±0.56
Ingi Chooranam@ 400 mg.kg^{-1}	13.26±1.23*	8.51± 0.92*	10.85±0.75*	9.67 ±0.64

Table.6.The effect of **Ingi Chooranam**on haematological parameters such as HB, Calcium, RBC and WBC in rats. A study on the effect of **Ingi Chooranam** on haematological parameters such as Hb, RBC, WBC, Calcium in rats was tested. where, group I animals (GPI) treated with normal saline (5 ml.kg^{1}), group II animals (GPII) with 50 mg.kg^{-1} of **Ingi Chooranam**, group III animals (GPIII) with 100 mg.kg^{-1} of **Ingi Chooranam**, group IV animals (GPIV) with 200

mg.kg^{-1} of **Ingi Chooranam**, and group V animals (GPV) with 400 mg.kg^{-1}**Ingi Chooranam**. The values are expressed as mean ± S.E.M. n=6. The results of group I were compared with other groups such as II, III, IV and V. The statistical analysis was carried out using one way ANOVA method, where *P<0.05.

Discussion

The evaluation of sub-chronic and chronic dosing in experimental animals may be more relevant in determining the overall toxicity of the plant preparation. The highest overall concordance of toxicity in animals in comparison with humans is with hematological, gastrointestinal, and cardiovascular adverse effects whiles certain adverse effects in humans, especially hypersensitivity and idiosyncratic reactions, are poorly correlated with toxicity observed in animals (Olson, *et al*., 2000).(7)

In the present study, where the acute toxicity study of **Ingi Chooranam** was carried out as per OECD-423 guidelines, no mortality was observed in both the animals of control group as well as animals treated with a maximum dose of 2000 mg.kg^{-1}. Hence, 1/10th of 2000 mg.kg^{-1} i.e. 200 mg.kg^{-1} of dose was selected as a minimum dose for sub-acute toxicity study (Abu TahaNael, *et al.,* 2008).(8)

The results of sub-acute toxicity study shows that there was no significant change in animal behaviour due to the absence of toxicity. The animals treated with **Ingi Chooranam**showed normal growth pattern and body weight compared with control rats treated with normal saline. So the changes in body weight can be used as an indicator of adverse effects of drugs and chemicals (Tofovic and Jackson, 1999; Raza, *et al.*, 2002; Teo, 2002).(9,10,11)

The changes in enzymes like ALP, AST and ALT levels show liver impairment, due to toxicity (Hayes, 1989).(12) Serum cholesterol and proteins mainly regulated via synthesis in the liver and increase or decrease in serum concentrations of constituents suggest liver toxicity. The results of the present study were assessed after 28 days of administration of **Ingi Chooranam**, and it was found that **Ingi Chooranam**at all concentrations do not produce liver damage.

There was a slight decrease in plasma glucose level, when higher doses of **Ingi Chooranam**(400 mg.kg^{-1}) were administered in the treated rats..

Analysis of blood parameters is likely to risk evaluation as the change in hematological system has a higher predictive value for human toxicity, when data are translated from animal studies (Olson, *et al*., 2000).(7) After 28 days of treatment, there were no significant changes in the haematological parameters between control and treated groups. No significant changes in the levels of WBC, RBC were observed between control and test groups following repeated administration of **Ingi Chooranam**. Interestingly, significant increase in the levels of hemoglobin was found in treatment with **Ingi Chooranam**with a higher dose of 400 $mg.kg^{-1}$. The possible reason could be that one of the constituents **Ingi Chooranam**may increase absorption of iron.

The overall results suggest that **Ingi Chooranam**are non toxic to the haaematopoietic and leucopoietic system. The haematopoietic and leucopoietic systems are the most sensitive targets for toxic compounds and an important index of physiological and pathological status in man and animal (Adeneye, *et al*., 2006).(13) Therefore, it is possible to assume that the **Ingi Chooranam** is non haematotoxic.

ANNEXURE - V

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL

PALAYAMKOTTAI, TIRUNELVELI

DEPARTMENT OF POTHU MARUTHUVAM

A PROSPECTIVE, OPEN LABELLED, RANDOMIZED PHASE-II CLINICAL TRIAL ON **CEGANA VATHAM (CERVICAL SPONDYLOSIS)** WITH EVALUATION OF THE TRIAL DRUG **"INGI CHOORANAM"**

FORM-I

SCREENING AND SELECTION PROFORMA

01. Name of the Subject :

02. O.P.No. :

03. Address :

04. Contact Number :

05. Age in years :

06. code No

(of clinical trails) :

07. Gender :

Male	1	Female	2	

08. Criteria of Inclusion :

Yes	1	No	2	

01	Age between 20 -60 years									
	20-30	1	31-40	2	41-50	3	51-60	4		
02	Both Sex	Male								
		Female								
03	Pain in nape of the neck									

04	Radiating pain in upper limb	
05	Numbness is upper limb	
06	Stiffness of neck	
07	Restriction of Neck movement	
08	Giddiness	
09	Patient who are willing for admission and stay in IPD for minimum (24 days) or willing to attend OPD	
10	Patient willing to participate in trial and who are willing to undergo radiological investigation and give blood and urine samples for laboratory investigation	
11	Patient willing to sign the informed consent stating than he/she will consciously stick to the treatment during 48 days but OPD can out of the trial of his//her own conscious discretion	
12	THE NECK DISABILITY INDEX SCORE: Should be equal (or) greater than 40%	

09. Criteria for Exclusion :

Yes	1	No	2	

01	Age below 20 and above 60	
02	Systemic Hypertension	
03	Diabetic mellitus	
04	Trauma	
05	Extra cervical rib	
06	Chronic kidney disease	
07	Tuberculosis in spine	

08	Ischemic heart disease	
09	Pregnancy	
10	Lactating Mother	
11	Neoplasm	
12	Patient with any other chronic systemic illness	
13	Congenital spinal anomalies	
14	Malignancy –secondaries	

If the Patient is eligible for admission:

Yes	1	No	2	

- If admitted : OPD : ☐ IPD : ☐
- ✓ Sr. No of the Subject : D O P / 2 0 1 _ / _ P / _ _
- ✓ No of Packets issued : ☐ 1 gram/bd with warm water for 2 days

Date :

Place :

Signature of the Investigator

Signature of guide

Date :

Place :

Signature of Supervisor

Date :

Place :

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL

PALAYAMKOTTAI, TIRUNELVELI

DEPARTMENT OF POTHU MARUTHUVAM

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FORM-II

HISTORY PROFOMA ON ENROLMENT

01 Name of the Subject :

02 Sr.No.of the Subject : D O P / 2 0 1 / P /

03 O.P.No. (or) I.P.No. :

04 Date of Admission :

05 Date of Discharge :

06 Address :

07 Contact Number :

08 Date of Birth : 09 Age (in yrs) :

10 Code No(of Clinical trial):

11 Gender : Male 1 Female 2

12 Education Status :-

Illiterate	1	High School	5
Read and write	2	College	6
Primary	3	Others (Specify)	7
Middle School	4	INA	8

13 Occupation :

Desk Work	1
Field work	2
Field Work with physical labour	3
Field Work with intellectual	4

Indicate Nature of work _____

14 Religion

Hindu	1
Muslim	2
Christian	3

15 Income per month (in Rs). :

16 Chief Complaint with duration (if any)

Yes	1	No	2

No.	Chief Complaint	1(or)2	Duration
01	Pain in nape of the neck		
02	Radiating Pain in upper limb		
03	Numbness in upper limb		
04	Stiffness of Neck		
05	Restriction of neck movement		
06	Giddiness		
07	Headache		

Others :

If yes Specify : _____

17 PAST HISTORY:

Systemic hypertension :

Diabetic mellitus :

Bronchial asthma :

Pulmonary tuberculosis :

Others (Specify) :

18 PERSONAL HISTORY

i. Marital status : | Married | 1 | Unmarried | 2 | |

ii. No.of Childrens : | Male | | female | |

19 PERSONAL HABITTS

i. Diet : | veg | 1 | Non-veg | 2 | mixed | 3 | |

ii. Smoking : |

If Yes Specify : (a) Quantity Packs :
(b) Total Duration in Years:

iii. Tobacco |

If Yes Specify : (a) Quantity:
(b) Total Duration in Years:

iv. Alcohal |

If Yes Specify : (a) Quantity (in ml/day)
(b) Total Duration in Years:

v. Any Other (Specify) _____

20. Drug history: Had the Patient been treated before with allopathy drug?

1) Yes : | | 2) No : |

If Yes, specify : _____

21. FAMILY HISTORY

Whether this Problem runs in Family? | Yes | 1 | No | 2 | |

If Yes, Mention the relationship of affected Person(s): _____

22. BOWEL HABITS & MICTURATION:- | Normal | 1 | Abnormal | 2 | |

- ✓ History of habitual constipation | Yes | 1 | No | 2 |
- ✓ History of Frequent diarrhoea | Yes | 1 | No | 2 |
- ✓ History of Frequent Dysuria | Yes | 1 | No | 2 |

23. PSYCHOLOGICAL STATE:-

Normal	1	Anxiety	2	Depression	3	

24. PRAKRITI:-

Vatham	1	Kapham	3	Vathakapham	5	Sannipatam	7	
Pitham	2	Vatha-pitham	4	Pitha Kapham	6			

25.PHYSICAL EXAMATION

1. Height : Cm
2. Weight : Kg
3. BMI :
4. Pulse Rate : Permin
5. Heart Rate : Permin
6. Body Temperature : o F
7. Respiratory Rate : Per min

8. Blood Pressure (in sitting position)

- ✓ Systolic mmHg
- ✓ Diastolic mmHg

9. Signs of dehydration and edema, if any: _____

26. Systemic Examination

Normal	1	Abnormal	2

1. Cardio Vascular System
   If abnormal, details _____
2. Central Nervous System
   If abnormal, details _____
3. Digestive System
   If abnormal, details _____
4. Respiratory System

If abnormal, details _____

.

Locomotor System ☐

If abnormal, details _____

6. Endocrine System ☐

If abnormal, details _____

7. Genito Urinary System ☐

If abnormal, details _____

Date :

Place :

_____

Signature of the Investigator

_____

Signature of guide

Date :

Place :

_____

Signature of Supervisor

Date :

Place :

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL

PALAYAMKOTTAI, TIRUNELVELI

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FORM-III

CLINICAL ASSESSMENT ON ENROLMENT AND ON VISITS

01 Name of the Subject :

02 Sr.No.of the Subject : D O P / 2 0 1 / P /

03 O.P.No. (or) I.P.No. :

04 Gender : Male 1 Female 2

05 Age :

06 Code No(of Clinical trial) :

07 Date of Assessment :

SIDDHA SYSTEM OF EXAMINATION

1.ENVAGAI THERVU (Eight-Fold Examination)

1.NAADI (Pulse perception)

Naadi	0th Day	07th Day	14th Day	21th Day	28th Day	35thDay	42thDay	48thDay
Vazhi								
Azhal								
Iyyam								
Vazhi Azhal								
Vazhi Iyyam								
Azhal Vazhi								
Azhal Iyyam								
Iyya Vazhi								
Iyya Azhal								

II. NAA (Tongue)

Colour		Taste		Mozhi		Salaiva, Nurai Edai Volume		Consistency		Coating, Dryness, Glossitis, Baldness, Fissure, Diarrhoea, Manam, Enjal.	
Dark	1	Sweet	1	High	1	Normal/Nil	1	Solid	1	Present	1
Yellow	2	Bitter	2	Medium	2	Increased	2	Watery	2	Absent	2
Red	3	Sour	3	Low	3	Decreased	3	Semisolid	3		
Pale	4	Pungent	4								
Tinted	5	None	5								

Naa	0th Day	7th Day	14thDay	21th Day	28thDay	35thDay	42thDay	48thDay
Colour								
Taste								
Coating								

Fissure								
Saliva								
Dryness								
Glossitis								
Baldness								

III. NIRAM (complexion):

Niram	0th Day	07thDay	14thDay	21thDay	28th Day	35thDay	42thDay	48thDay
Dark								
Yellow								
Tinted								
Pale								

IV. Mozhi (Voice)

Mozhi	0th Day	07thDay	14thDay	21thDay	28th Day	35thDay	42thDay	48thDay
Medium Pitched								
High Pitched								
Low Pitched								

V. VIZHI (Eyes) (Lower Palpebral Conjunctiva)

Niram	0th Day	07thDay	14thDay	21thDay	28th Day	35thDay	42thDay	48thDay
Dark								
Yellow								
Red								
Pale								

VI. MALAM (Bowel habits/Stools)

Malam	0th Day	07th Day	14th Day	21th Day	28thDay	35thDay	42thDay	48th Day
Colour								
Consistency								
Stool bulk								
Constipation								
Diarrhoea								

VII. URINE EXAMINATION

Neerkuri	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Niram (Colour)								
Manam(Odour)								
Nurai (Froth)								
Edai (sp.gravity) (weight/10ml)								
Enjal (Deposits)								
Volume								

Neikuri	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Serpentine Fashion								
Annular/ Ringed fashion								

Pearl beaded fashion								
Mixed fashion								
Other fashion								

VIII. SPARISAM (Palapatory pereeption)

Sparisam	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Warmth								
Cold								
Sweat								

2.THEGI (type of body constitution)

Vatham predominant	1
Kabam predominant	2
Pitham predominant	3
Thondha udal	4

3.NILAM (land where patient lived most)

Kurinji (Hilly terrain)	1
Mullai (Forest range)	2
Marutham (Plains)	3
Neithal (Coastal belt)	4
Palai (Arid regions)	5

4.KAALAM

Kaarkalam	1	Pinpanikalam	4
Koothirkalam	2	IIavenil	5
Munpanikalam	3	Muthuvenil	6

5.GUNAM

Sathuva Gunam	1
Raso Gunam	2
Thamo Gunam	3

6.IMPORIGAL (Sensory Organs)

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Mei (Skin)								
Vai (Buccal Cavity)								
Kann (Eye)								
Sevi (Ear)								
Mooku (Nose)								

7. KANMENDRIYAM (MOTOR ORGANS)

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Kai(Upper limbs)								
Kaal(lower limbs)								

Vai(buccalcavity)								
Eruvaai (Excretory organs)								
Karuvaai (Reproductive organs)								

8.KOSANGAL (Sheath)

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Annamaya Kosam								
Pranamaya Kosam								
Manomaya Kosam								
Vignanamaya Kosam								
Ananthamaya Kosam								

9. MUKKUTRAM (AFFECTION OF THREE HUMORS)

A) VATHAM

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48th Day
Praanan								
Abaanan								
Viyaanan								
Udhaanan								
Samanan								
Naagan								
Koorman								
Kirukaran								
Devathathan								
Dhananjeyan								

B) PITHAM

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48th Day
Analpitham								
Ranjagam								
Saathagam								
Praasagam								
Aalosagam								

C) KAPHAM

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Avalambagam								
Kilaethagam								
Pothagam								
Tharpagam								
Santhigam								

10. SEVEN DHATHUS (7 SOMATIC COMPONENTS)

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48th Day
Saaram(Chyme)								
Senneer (Blood)								
Oon (Muscle)								
Kozhuppu (fat)								
Enbu (Bones)								

Moolai (Bone Marrow)								
Sukkilam/ Suronitham (Sperm/Ovum)								

11.SYSTEMIC EXAMINATION

Systems	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48th Day
Locomotor system								
Cardiovascular System								
Respiratory System								
Gastro Intestinal system								
Central nervous system								
Genito Urinary System								
Endocrine System								

12.GENERAL EXAMINATION

	0th Day	07th Day	14th Day	21th Day	28th Day	35th Day	42th Day	48th Day
Height (cms)								
Weight (kg)								
Temperature (F^O)								
Pulse rate (per min)								
Heart rate (Per min)								
Respiratory rate (permin)								
Blood pressure								
Pallor								
Jaundice								
Cyanosis								
Lymph adenopathy								
Pedal odema								
Clubbing								
Jugular vein pulsation								

13.EXAMINATION OF THE INTERNAL ORGANS

Organs	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48th Day
Brain								
Lungs								
Liver								
Pancreas								
Kidney								
Urinary Bladder								
Heart								
Stomach								
Gall Bladder								
Intestines								
Uterus								
Rectum								

14. CLINICAL SYMPTOMS

Complaints	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Pain in nape of the neck								
Pain in Shoulder								

Nature of Pain								
Onset of Pain								
Radiating Pain in right upper limb								
Radiating pain in Left upper limb								
Numbness								
Tenderness								
Restriction of movements								
Burning Sensation								
Giddiness								
Headache								

15. CLINICAL ASSESSMENT

A. INSPECTION

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Attitude								
Muscle wasting								
Swelling								

B. PALPATION

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Tenderness								
Muscle Spasm								
Local heat								
Local Lymph adenopathy								
Pitting odema								
Joint stiffness								

C. MOVEMENTS

	0thDay	07thDay	14thDay	21thDay	28thDay	35thDay	42thDay	48thDay
Stiffness								
Restriction of Movements								
Rotation								
Flexion								
Extension								
Lateral Bending								

16**. Neck Disability Index**

- This questionnaire has been designed to give us information as to how your neck pain has affected your ability to manage in everyday life. Please answer ever section and **mark in each section only the one box that applies to you.**

Section 1:-

Pain Intensity	SCORE	PATIENT'S SCORE
• I have no pain at the moment	0	
• The Pain is very mild at the moment	1	
• The Pain is moderate at the moment	2	
• The Pain is fairly severe at the moment	3	
• The Pain is very severe at the moment	4	
• The Pain is the worst imaginable at the moment	5	

Section 2:-

PERSONAL CARE (WASHING, DRESSING, etc)	SCORE	PATIENT'S SCORE
• I Can look after myself normally without causing extra pain	0	
• I Can look after myself normally but it causes extra pain	1	
• It is Painful to look after myself and I am slow and careful	2	
• I need some help but can manage most of my personal care	3	
• I need help everyday in most aspects of self care	4	
• I do not get dressed, I wash with difficulty and stay in bed	5	

Section 3:-

LIFTING	SCORE	PATIENT'S SCORE
• I Can lift heavy weights without extra pain	0	
• I Can lift heavy weights but it gives extra pain	1	
• Pain Prevents me lifting heavy weights off the floor, but I can manage if they are conveniently Placed, for example on a table	2	
• Pain Prevents me from lifting heavy weights but I can manage light to medium weights if they care conveniently positioned	3	
• I Can only lift very light weights	4	
• I cannot lift or carry anything	5	

Section 4:-

READING	SCORE	PATIENT'S SCORE
• I Can read as much as I want to with no pain in My neck	0	
• I can read as much as I want to with slight pain in my neck	1	
• I can read as much as I want with moderate pain in my neck	2	
• I Can't read as much as I want because of moderate pain in my neck	3	
• I Can hardly read at all because of severe pain in my neck	4	
• I cannot read at all	5	

Section 5:-

HEADACHES	SCORE	PATIENT'S SCORE
• I have no headaches at all	0	
• I have slight headaches, which come infrequently	1	
• I have moderate headaches, which come infrequently	2	
• I have moderate headaches, which come frequently	3	
• I have severe headaches, which come frequently	4	
• I have headaches almost all the time	5	

Section 6:-

CONCENTRATION	SCORE	PATIENT'S SCORE
• I Can Concentrate fully when I want to with no difficulty	0	
• I can concentrate fully when I want to with slight difficulty	1	
• I have a fair degree of difficulty in concentrating when I want to	2	
• I have a lot of difficulty in concentrating when I want to	3	
• I have a great deal of difficulty in concentrating when I want to	4	
• I Cannot concentrate at all	5	

Section 7:-

WORK	SCORE	PATIENT'S SCORE
• I Can do as much work as I want to	0	
• I Can only do my usual work, but no more	1	
• I Can do most of my usual work, but no more	2	
• I cannot do my usual work	3	
• I Can hardly do any work at all	4	
• I Can't do any work at all	5	

Section 8:-

DRIVING	SCORE	PATIENT'S SCORE
• I Can drive my car without any neck pain	0	
• I Can drive my car as long as I want with slight pain in my neck	1	
• I Can drive my car as long as I want with moderate pain in my neck	2	
• I Can't drive my car as long as I want because of moderate pain in my neck	3	
• I Can hardly drive at all because of severe pain in my neck	4	
• I Can't drive my car at all	5	

Section 9:-

SLEEPING	SCORE	PATIENT'S SCORE
• I have no trouble sleeping	0	
• My Sleep is slightly disturbed (less than 1hr sleepless)	1	
• My Sleep is mildly disturbed (1-2 hrs sleepless)	2	

• My Sleep is moderately disturbed (2-3 hrs Sleepless)	3	
• My Sleep is greatly disturbed (3-5 hrs sleepless)	4	
• My Sleep is completely disturbed (5-7 hrs sleepless)	5	

Section 10:-

RECREATION	SCORE	PATIENT'S SCORE
• I am able to engage in all my recreation activities with no neck pain at all	0	
• I am able to engage in all my recreation activities, with some pain in my neck	1	
• I am able to engage in most, but not all of my usual recreation activities because of pain is my neck	2	
• I am able to engage in a few of my usual recreation activities because of pain in my neck	3	
• I Can hardly do any recreation activities because of pain in my neck	4	
• I Can't do any recreation activities at all	5	

Score: /50 Transform to percentage score x 100 = % points

- **Scoring:** For each section the total possible score is 5: If the first statement is marked the section score = 0, if the last statement is marked it = 5.
- If all ten Sections are completed the score is calculated as follows: Example: 16 (total Scored) 50 (Total Possible Score) x 100 = 32%
- If one section is missed or not applicable the score is calculated: 16 (total Scored) 45 (total Possible Score) x 100 = 35.5%
- Minimum Detectable change (90% Confidence):
  5 Points or 10% Points

NDI developed by: Vernon, H.& Mior,

Date :

Place :

_____

Signature of the Investigator

_____

Signature of guide

Date :

Place :

_____

Signature of Supervisor

Date :

Place :

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FORM-IV

BEFORE TREATMENT & FORTIGHTLY DURING TREATMENT

01 Name of the Subject :

02 Sr.No.of the Subject : D O P / 2 0 1 8 / p /

03 O.P.No. (or) I.P.No. :

04 Date of Admission :

05 Address :

06 Contact Number :

07 Date of Birth : 08.Age (in yrs) :

09 Code No(of Clinical trial) :

10 Gender : Male 1 Female 2

11 Date of Assessment :

12 Chief Complaint with duration (if any)in : Yes 1 No 2

No.	Chief complaint	1(or)2	Duration
01.	Pain in nape of the neck		
02.	Radiating Pain in upper limb		
03.	Numbness		
04.	Stiffness of neck		
05.	Restriction neck movement		
06.	Giddiness		
07.	Headache		

Others

If Yes Specify:- _____

13. Physiological Assessment

- ✓ Weight (in Kgs) ☐

- ✓ Blood pressure (in sitting position)

Systolic ☐

Diastolic ☐

	Before Treatment	7th Day	14thDay	21stDay	28thDay	35thDay	42ndDay	End of the treatment (48th Day)
Pain intensity								
Personal care								
Lifting								

Reading								
Headache								
Concentration								
Work								
Driving								
Sleeping								
Recreation								
Patient's score								

Date :

Place :

Signature of the Investigator

Signature of guide

Date :

Place :

Signature of Supervisor

Date :

Place :

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL
PALAYAMKOTTAI, TIRUNELVELI
DEPARTMENT OF POTHU MARUTHUVAM

A PROSPECTIVE, OPEN LABELLED, RANDOMIZED PHASE-II CLINICAL TRIAL ON **CEGANA VATHAM (CERVICAL SPONDYLOSIS)** WITH EVALUATION OF THE TRIAL DRUG **"INJI CHOORANAM"**

FORM-V
LABORATORY PARAMETERS - CHART

01 Name of the Subject :

02 Sr.No.of the Subject : D O P / 2 0 1 8 / p /

03 O.P.No. (or) I.P.No. :

04 Date of Admission :

05 Date of Discharge :

06 Address :

07 Conduct Number :

08 Date of Birth : 09.Age (in yrs):

10 Code No(of Clinical trial) :

11 Gender : Male 1 Female 2

12 Bed No :

LAB INVESTIGATION CHART

Blood Investigation		Before treatment	After treatment
Haemoglobin (gms%)			
TC (Cells /cu.mm)			
Differential Count (%)	Polymorphs		
	Lymphocytes		
	Monocytes		
	Eosinophil		
	Basophils		
ESR(mm/hr)			
Blood Glucose (mg/dl)	Fasting		
	PP		
	Random		
Serum Cholesterol (Mgs%)			
Urea (Mgs%)			
Creatinine (Mg/dl)			

Urine Investigation	Before treatment	After treatment
Albumin		
Sugar		
Epithelial Cells		
Pus cells		
Red Blood cells		
Casts /crystals		

RADIOLOGICAL INVESTIGATIONS

X-Ray: Cervical Spine - Ap View & Lateral View

X Ray Changes	Before treatment	After treatment

Date :

Place :

Signature of the Investigator

Signature of guide

Date :

Place :

Signature of Supervisor

Date :

Place :

அரசினர் சித்த மருத்துவக் கல்லூரி மற்றும் மருத்துவமனை

ghisa';nfhl;il

gl;lnkw;gog;g[bghJkUj;Jtj;Jiw

rfdthjj;jpw;F (CERVICAL SPONDY LOSIS)

,";rpr;Nuzj;jpd; ghpfhpg;g[j; jpwidf; fz;lwpa[k;

kUj;JtMa;t[xg;g[jy; gotk;

Ma;thshpd; rhd;wpjH;

ehd; ,e;j Ma;t[Fwpj;j midj;Jtpgu';fisa[k; nehahspf;Fg; g[hpa[k; tifapy; vLj;Jiuj;njd; vd cWjpaspf;fpnwd;/

bgah; :_____

ifnahg;gk; :_____

njjp :_____

,lk; :_____

nehahspapd; xg;g[jy;

vd;dplk; ,e;e kUj;Jt Ma;tpd; fhuzj;ija[k;. kUe;jpd; jd;ik kw;Wk; kUj;Jt tHpKiwiag;gw;wpa[k; bjhlh;e;J vdJ cly; ,af;fj;ij fz;fhzpf;ft[k;. mjidg; ghJfhf;ftk; gad;gLk; kUj;Jt Ma;t[Tl ghpnrhjidfs; gw;wp jpUg;jp mspf;Fk; tifapy; Ma;t[kUj;Jtuhy; tpsf;fpf; Twg;gl;lJ/

ehd; ,e;j kUj;Jt Ma;tpd; nghJ fhuzk; vJt[k; Twhky; vg;bghGJ ntz;LkhdhYk; ,e;j Ma;tpypUe;J vd;id tpLtpj;Jf; bfhs;Sk; chpikia bjhpe;jpUf;fpnwd;/

ehd; vd;Dila Rje;jpukhf njh;t[bra;a[k; chpikiaf; bfhz;L rfdthjk; (CERVICAL SPONDYLOSIS) neha;f;F kUe;jhf ,";rp Nuzj;jpd; ghpfhpg;g[j; jpwidf; fz;lwpa[k; kUj;Jt Ma;tpw;F vd;id cl;gLj;j xg;g[jy; mspf;fpnwd;/

bgah;	:_____	rhl;rpapd; bgah;	:_____
ifbahg;gk;	:_____	rhl;rpapd; ifbahg;gk;	:_____
Njjp	:_____	cwt[Kiw	:_____
,lk;	:_____	njjp :_____,lk;	:_____

njjp : _____ _____

,lk; : _____ nkw;ghu;itahsu; ifbahg;gk;

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL

PALAYAMKOTTAI, TIRUNELVELI

DEPARTMENT OF POTHU MARUTHUVAM

A PROSPECTIVE, OPEN LABELLED, RANDOMIZED PHASE-II CLINICAL TRIAL ON **CEGANA VATHAM (CERVICAL SPONDYLOSIS)** WITH EVALUATION OF THE TRIAL DRUG **"INJI CHOORANAM"**

FORM-VI

CONSENT FORM

CERTIFICATE BY INVESTIGATOR

I certify that I have disclosed all details about the study in the terms easily understood by the patient.

Name of Investigator: **Dr.A.NAHITHA LUBANA**

Date:-_____ Signature of the Investigator: _____

CONSENT BY SUBJECT

I have been informed to my satisfaction, by the attending physician, the purpose of the clinical trial, and the nature of drug treatment and follow - up including the laboratory investigations to be performed to monitor and safeguard my body functions.

I am aware of my right to opt out of the trial at any time during the course of the trial without having to give the reasons for doing so.

I, exercising my free power of choice, hereby give my consent to be included

As a subject in An Open Labeled Randomized Clinical Trial of Poly Herbal Formulation of "INJI CHOORANAM" for CEGANA VATHAM (CERVICAL SPONDYLOSIS)

❖ Name of the Subject:_____

Date:- _____Signature or Thumb impression_____

❖ Name of the Witness:_____

Date:- _____Signature or Thumb impression_____

Relationship : _____

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PALAYAMKOTTAI, TIRUNELVELI
DEPARTMENT OF POTHU MARUTHUVAM

A PROSPECTIVE, OPEN LABELLED, RANDOMIZED PHASE-II CLINICAL TRIAL ON **CEGANA VATHAM (CERVICAL SPONDYLOSIS)** WITH EVALUATION OF THE TRIAL DRUG **"INJI CHOORANAM"**

FORM-VII
WITHDRAWAL FORM

01. Name of the Subject :

02. Sr.No.of the Subject : D O P / 2 0 1 8 / p /

03. O.P.No.(or)I.P.No :

04. Age (in years) :

05. Gender : Male 1 Female 2

06. Date of trial Commencement :

07. Date of withdrawal from trial :

Reasons for withdrawal : Yes 1 No 2

Long absence at reporting	
Irregular treatment	
Shift of locality	
Increase in severity of symptoms	
Development of sever adverse drug reactions	

Date :

Place :

Signature of the Investigator

Signature of guide

Signature of Supervisor

Date :

Place :

Date :

Place :

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PALAYAMKOTTAI, TIRUNELVELI

DEPARTMENT OF POTHU MARUTHUVAM

A PROSPECTIVE, OPEN LABELLED, RANDOMIZED PHASE-II CLINICAL TRIAL ON **CEGANA VATHAM (CERVICAL SPONDYLOSIS)** WITH EVALUATION OF THE TRIAL DRUG "**INJI CHOORANAM"**

FORM-VIII

PATIENT INFORMATION SHEET

- Name of the Principal Investigator : Dr. A.NAHITHA LUBANA
- Name of the Institution : Government Siddha Medical College&Hospital
  Palayamkottai, Tirunelveli
  Tamil Nadu.

- I, Dr.A.Nahitha Lubana studying M.D (Siddha) in Government Siddha Medical College. Palayamkottai. The disease called CEGANA VATHAM (CERVICAL SPONDYLOSIS). It is mainly caused due to vitiated Vatha humours. It is a degenerative disc disease. It is a clinical syndrome occurs due to anatomical changes to the vertebral bodies and inter vertebral disc space.
- This Condition is being treated in GSMC & H with many siddha formulations. As a part of M.D(s) research programme and developing new efficacious medicine, I propose to study the **INJI CHOORANAM** formulation for treating the condition. This formulation has been mentioned in siddha literature and empirical evidence with contemporary tools is required for documentation. You can receive medicines free of cost. The duration of treatment period is 48 days. You have to visit GSMC & H every 2 days and collect drugs for 2 days. The diagnosis test will be carried out free of cost. We will assess the effect of treatment after completion of 48 days of treatment using clinical and lab parameters.
- The trial drug is prepared at the Gunapadam lab of government siddha medical College & Hospital, Palayamkottai, under the direct supervision of teaching faculties of Maruthuvam and Gunapadam Dept.
- Patients are advised to do exercise, Patients are advised to avold tamarind, betel chewing, tobacco, alcohol and smoking.

- Patients are advised to take green vegetables, protein foods, fibre foods and wheat

  Details of the trial drug

  - ✓ Trial Medicine : Inji Chooranam
  - ✓ Dosage : 1 gram twice a day
  - ✓ Adjuvant : Warm water
  - ✓ Duration : 48 days

- In this regard, I need to ask you few questions. We will maintain confidentiality of your comments and data obtained from you. There will be no risk of disclosing your identity and no physical, psychological or professional risk is involved by taking part in this study.
- Taking part in this study is voluntary. No compensation will be paid to you for taking part in this study. You can choose not to answer any specific question. There is no specific benefit for you if you take part in the study, but you will be under our clinical monitoring and specific attention will be given for your health. Taking part in the study may be of benefit to the community, as it may help us to develop medicine for CEGANA VATHAM (CERVICAL SPONDYLOSIS). In case of any adverse symptoms during the treatment in few patients during the treatment, shall be reported to pts and care will be taken in GSMC & H for relief. You can withdraw from the study at the midst of treatment period, if you are not interested to continue and you will receive our usual treatment without condition.
- The information we will collect in this study, will remain between you and the principal investigator. We will ask you a few questions through questionnaire. We will not write your name on different forms which sent to different investigating/analysis sections and we will use a code instead given by the principal investigator. Only the principal investigator will know the key to this code which will be kept in safe custody. If you agree to be a participant in this study, you will be screened as per the study protocol.
- If you wish to find out more about this study before taking part, you can ask me all the questions you want or contact. Dr. A.NAHITHA LUBANA PG Scholar cum principal investigator of this study, attached to the Government Siddha Medical College & Hospital, Palayamkottai (Mobile Phone No. 9865863631).

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL
PALAYAMKOTTAI, TIRUNELVELI
DEPARTMENT OF POTHU MARUTHUVAM

A PROSPECTIVE, OPEN LABELLED, RANDOMIZED PHASE-II CLINICAL TRIAL ON **CEGANA VATHAM (CERVICAL SPONDYLOSIS)** WITH EVALUATION OF THE TRIAL DRUG **"INJI CHOORANAM"**

FORM-IX
ADVERSE DRUG REACTION FORM

01 Name of the Subject :

02 Sr.No.of the Subject : D O P / 2 0 1 8 / p /

03 O.P.No.(or)I.P.No :

04 Age (in years) :

05 Gender : Male 1 Female 2

06 Date of trial Commencement :

07 Date of withdrawal from trial :

08. Description of adverse reaction: _____

_____

Date :

Place :

_____
Signature of the Investigator

_____
Signature of guide

_____
Signature of Supervisor

Date :

Place :

Date :

Place :

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL
PALAYAMKOTTAI, TIRUNELVELI
DEPARTMENT OF POTHU MARUTHUVAM

A PROSPECTIVE, OPEN LABELLED, RANDOMIZED PHASE-II CLINICAL TRIAL ON **CEGANA VATHAM (CERVICAL SPONDYLOSIS)** WITH EVALUATION OF THE TRIAL DRUG **"INJI CHOORANAM"**

FORM-X
DRUG COMPLIANCE FORM

01 Name of the Subject :

02 Sr.No.of the Subject : D O P / 2 0 1 8 / p /

03 O.P.No.(or)I.P.No :

04 Date :

05 Address :

06 Conduct Number :

07 Age (in years) :

08 Code No(of Clinical trial) :

09 Gender : Male 1 Female 2

10 Bed No. :

11. Name of the Drug : INJI CHOORANAM

Drugs issued date :

Drugs returned date :

S.No.	Date	Drug Taken Time	
		Morning Time	Evening Time
Day 01			
Day 02			
Day 03			
Day 04			
Day 05			
Day 06			
Day 07			
Day 08			
Day 09			
Day 10			
Day 11			
Day 12			
Day 13			
Day 14			
Day 15			
Day 16			
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Day 27			
Day 28			
Day 29			
Day 30			
Day 31			
Day 32			

Day 33			
Day 34			
Day 35			
Day 36			
Day 37			
Day 38			
Day 39			
Day 40			
Day 41			
Day 42			
Day 43			
Day 44			
Day 45			
Day 46			
Day 47			
Day 48			

Date :

Place :

Signature of the Investigator

Signature of guide

Date :

Place :

Signature of Supervisor

Date :

Place :

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The Tamil Nadu Dr.M.G.R.Medical University

69, Anna Salai, Guindy, Chennai - 600 032.

This Certificate is awarded to Dr/Mr/Mrs....A. NAHITHA LUBANA.....

For participating as ~~Resource~~ ~~Person~~ / Delegate in the Twentieth Workshop on

"RESEARCH METHODOLOGY & BIOSTATISTICS"

*For **AYUSH Post Graduates & Researchers***

Organized by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University From 07th to 11th March 2016.

Dr.N.KABILAN, M.D.(S)
PROF & HEAD
DEPT.OF SIDDHA

Prof.**Dr.P.ARUMUGAM,** M.D.,
REGISTRAR i/c

Prof. **Dr.S.GEETHALAKSHMI,** M.D., Ph.D.,
VICE CHANCELLOR

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

SCREENING COMMITTEE

Candidate Reg No :

Department : Pothu Maruthuvam, Branch : I

This is to certify the dissertation topic "A Prospective open labeled randomized clinical study on **"CEGANA VATHAM"** with evaluation of the trail drug **"INGI CHOORANAM"** has been approved by the screening committee.

Branch	Department	Name	Signature
01	Pothu Maruthuvam	Dr.A.Manoharan MD (s) Professor	
02	Gunapadam	Dr.A.Kingsly MD (s) Associate Professor	
03	Sirappu Maruthuvam	Dr.A.S.Poongodikanthimathi MD (s) Professor	
04	Kuzhanthai Maruthuvam	Dr.D.K.Soundararajan MD (s) Professor	
05	NoiNadal	Dr.S.Victoria MD (s) Professor	
06	Nanju Nool Maruthuvam	Dr.M.Thiruthani MD (s) Professor	

Remarks :

INSTITUTIONAL ETHICAL COMMITTEE
GOVERNMENT SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI
TIRUNELVELI – 627 002
TAMIL NADU INDIA

Ph.No : 0462-2572736 / 2572737 / 2582010 **Fax : 0462-2582010**
Email ID : gsmc.palayamkottai@gmail.com

R.No.GSMC / 5676 / P&D / Res / IEC / 2014 **Date : 20.07.2016**

CERTIFICATE OF APPROVAL

Address of Ethical committee	Government Siddha Medical College Palayamkottai - 627002 Tirunelveli District
Principal investigator	Dr A.Nahitha Lubana M.D (s) First Year PG Dept of Pothu Maruthuvam Reg.No :
Supervisor	Dr.A.Manoharan M.D (s) Professor & Head of the Department
Guide	Dr.S.Justus Antony M.D (s) Lecturer
Dissertation topic	A prospective open labeled randomized clinical trial on **"Cegana Vatham" (Cervical Spondylosis)** with evaluation of trial drug **"Ingi Chooranam"**
Document field	1. Protocol 2. Data Collection Form 3. Patient Information Sheet 4. Consent form
Clinical / Non Clinical trial Protocol	Clinical trial protocol - Yes
Informed consent document	Yes
Any other document	Case sheet, Investigation document
Date of IEC approval & it's Number	GSMC/3-IEC/2016-I-4/20.07.2016

We approve the trial to be conducted in its presented form.

The Institutional Ethical committee expects to be informed about the process report to be submitted to the IEC at least annually of the study, any SAE occurring in the course of the study and changes in the protocol and submission of final report.

Chairman
20/7/2016
(Prof.Dr.M.Logamanian PhD)

Member Secretary
20/7/16
(Prof. Dr.S.Victoria MD(s))

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

Certificate of Botanical Authenticity

Certified the following plant drugs used in Siddha formulation (Internal) ***"INGI CHOORANAM"***for **CEGANA VATHAM** (CERVICAL SPONDYLOSIS)taken up for Post-Graduation Dissertation Studies by Dr.A.NahithaLubana PG Scholar MD siddha, Department of PothuMaruthuvam are correctly identified and authenticated through Visual inspection / Organoleptic Characters / Experience, Education & Training Morphology Microscopically and Taxonomical methods.

Table 1: Ingredientof Ingichooranam

S.N	Name	Botanical Name	Family	Parts Used
1.	INGI	*Zingiber officinale Rosc,*	Zingiberaceae	Rhizome
2.	ELAM	*Elettaria cardamomum, .Maton*	Zingiberaceae	Fruit
3.	CHUKKU	*Zingiber officinale, Rosc.*	Zingiberaceae	Dried Rhizome
4.	MELAGU	*Piper nigrum. Linn*	Piperaceae	Fruit
5.	THIPPILI	*Piper longum, Linn*	Piperaceae	Dried spikes
6.	KIRAMBU	*Syzygium aromaticum, Linn*	Myrtaceae	Flower bud
7.	OMAM	*Carum copticum*	Apiaceae	Seed
8.	VALULUVAI	*Celastrus paniculatus*	Celastraceae	Seed
9.	SATHIKKAI	*Myristica fragrans*	Myristicaceae	Seed
10.	YAANAI THIPPILI	*Scindapsus officinalis*	Araceae	Dried spike
11.	SERAGAM	*Cuminum cyminum*	Apiaceae	Fruit

12.	ADHIMATHURAM	*Glycyrrhiza Glabra,Linn*	Fabaceae	Root
13.	CROSANI OMAM	*Hyoscyamus niger*	Solanaceae	Seed
14.	AMUKKARA	*Withania somnifera*	Solanaceae	Root
15.	KASAKASA	*Papaver somniferum*	Papaveraceae	Seed
16.	ELAVANGAPATHIRI	*Cinnamomum tamala*	Lauraceae	leaf
17.	THIPPILIVER (MODI)	*Piper longum*	Piperaceae	Root
18.	KOTHTHAMALLI	*Coriandrum sativum*	Apiaceae	Dried fruit
19.	PERICHAI	*Phoenix dactylifera*	Arecaceae	Fruit
20.	MUNTHIRIGAI	*Vitis vinifera*	Vitaceae	Dried fruit
21.	SUGAR	*Saccharum officinarum Linn*	Poaceae	Juice

Station: Palayamkottai

Date: 18.1.2017

Authorized Signature

Dr. S. SUTHA, M.Sc.,M.Ed.,Ph.D.,
Associate Professor
Dept. of Medicinal Botany
Govt. Siddha Medical College
Palayamkottai, Tirunelveli - 2.

(For IAE / CPCSEA usage)

Proposal number : **A.NAHITHA LUBANA /3215110041**

MD(S)/TNMGRMU/KMCP/IAEC/319

Date first received : 12.02.2017

Date received after modification (if any) : NA

Date received after second modification (if any) : NA

Approval date : 15.02.2017

Expiry date : 31.07.2017

Name of IAEC / CPCSEA chairperson : Dr. N. CHIDAMBARANATHAN

Date: 15.02.2017

15/2/17

CPCSEA NOMINEE
INSTITUTIONAL ANIMAL ETHICS COMMITTEE
K.M. COLLEGE OF PHARMACY
MADURAI-625 107

Signature 15/2/17

I. A. E. C. CHAIRMAN
INSTITUTIONAL ANIMAL ETHICAL COMMITTEE
K. M. COLLEGE OF PHARMACY
MADURAI-625 107.

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI, TIRUNELVELI - 627 002.

CONTINUING MEDICAL EDUCATION PROGRAMME

Conducted by

Post Graduate Department of Pothu Maruthuvam

This Certificate is awarded to Dr / ~~Mr~~ / ~~Mrs~~ A.NAHITHA LUBANA .....

has participated in the CME Programme held on 13.06.2018 at Conference Hall Special Therapy Wing, Government Siddha Medical College, Palayamkottai, Tirunelveli. This Programme is focussed on

"NON COMMUNICABLE DISEASES"

Prof. Dr. A. MANOHARAN, M.D.(s) Ph.D.,
Head, Department of Pothu Maruthuvam (PG)
Government Siddha Medical College, Palayamkottai.

Prof. Dr. R. NEELAVATHI, M.D.(s) Ph.D.,
PRINCIPAL
Government Siddha Medical College, Palayamkottai.

NATIONAL SEMINAR ON

"RESEARCH METHODOLOGY AND PUBLIC HEALTH INITIATIVE THROUGH SIDDHA SYSTEM OF MEDICINE"

(RM & PHISSM – 2018)

6TH & 7TH APRIL 2018

प्रमाण पत्र
CERTIFICATE

सिद्ध क्षेत्रीय अनुसन्धान संस्थान
पूजप्पुरा, तिरुवनंतपुरम, केरल
SIDDHA REGIONAL RESEARCH INSTITUTE
Poojappura, Thiruvananthapuram, Kerala

केन्द्रीय सिद्ध अनुसन्धान परिषद्
(आयुष मंत्रालय, भारत सरकार)
CENTRAL COUNCIL FOR RESEARCH IN SIDDHA
Ministry of AYUSH, Govt. of India

This is to certify that Dr./Shri/Smt. Nahitha Lubana, Gsmc, Thirunelveli **has participated/~~presented~~ a paper entitled**

..... **in the National Seminar on "Research Methodology and Public Health Initiative through Siddha System of Medicine" (RM & PHISSM – 2018) organized by Siddha Regional Research Institute, Thiruvananthapuram on 6th & 7th April 2018 at Dr. M R DAS Convention Centre, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, Kerala.**

डॉ. ए. कनगराजन / Dr. A. Kanagarajan
Organizing Secretary and Convenor

RM & PHISSM 2018

प्रो.डॉ.आर.एस. रामस्वामी / Prof. Dr. R. S. Ramaswamy
Director General, CCRS

SIDDHA PAPERS
A PEER REVIEWED ONLINE JOURNAL
ISSN: 0974-2522

Siddha Papers 2018 (13) (2)
RESEARCH ARTICLE
https://www.siddhapapers.com

ANALGESIC ACTIVITY OF SIDDHA FORMULATION OF *INGI CHOORANAM* IN SWISS ALBINO MICE

A.Nahitha Lubana[1*], S.Justus Antony[2], A.Manoharan[3]

[1]PG Scholar, [2] Lecturer (grade II), [3]Professor & Head, Department of *Pothu Maruthuvam,*

Govt.Siddha Medical College, Palayamkottai, Tirunelveli, Tamilnadu, India.

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ABSTRACT

The Siddha drug *Ingi chooranam* (IC) is used in treating of vatha diseases. The aim of the study was to investigate the efficacy of the Siddha drug *Ingi chooranam* (IC) in swiss albino mice. The analgesic effect was found out by Acetic acid writhing reflex method using diclofenac sodium as standard drug. The control group-I was given normal saline, group-II serves as standard received diclofenac sodium (10 mg/kg) and the two test groups –III, IV are treated by *Ingi chooranam* (IC) at dose level of 100mg/kg, 200mg/kg respectively. One hour before acetic acid administration Siddha formulation *Ingi chooranam* was administed. Onset on writhing is noted. Contractions of the abdomen, twist of the trunk, hind limbs extension were noted within 10 minutes how many animals showing such response were also noted and the result reveals that the both doses of *Ingi chooranam* possess significant analgesic activity.

KEYWORDS: *Ingi chooranam (IC), Vatha diseases*, Diclofenac sodium, Acetic acid writhing reflex.

INTRODUCTION

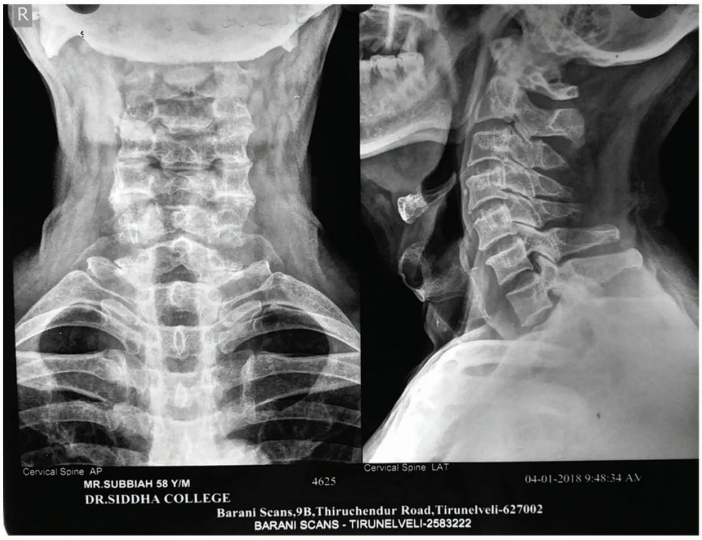
Pain is "an unpleasant sensory and emotional experience associated with actual or potential tissue damage", according to the International Association for Study of Pain (IASP)[1]. In resently aspirin and morphine were widely used as pain relief drugs. Most of the analgesic drugs, particularly non steroidal anti-inflammatory drugs and opioids relieve only

X-RAY FINDING

PATIENT NAME : SUBBIAH OP NO:919

AGE/SEX:58Y/M DATE:04.01.2018

BEFORE TREATEMENT



BARANI SCANS
Serving with Humanity

NAME	Mr. SUBBIAH	Date	04.01.2018
AGE/SEX	58Y/M	ID	4625

X-RAY C-SPINE AP & LATERAL

Anterior osteophytes present in C3 to C6 vertebra.

Prominent of transverse process of C7 vertebra in both side.

The intervertebral disc spaces appear normal.

Other cervical vertebra appear normal.

Intervertebral lines appear normal.

Pre& paravertebral soft tissue appear normal.

IMPRESSION:

- **Anterior spondylotic changes in C3 to C6 vertebra.**
- **Prominent of transverse process of C7 vertebra in both side.**

Dr.A.GOPINATH,MD(RD)
CONSULTANT RADIOLOGIST
Ph.No:8870009015

Note: *This imaging modality has its own limitations. Hence it should be correlated with clinical & other parameters. Patient's identity is not verified.*

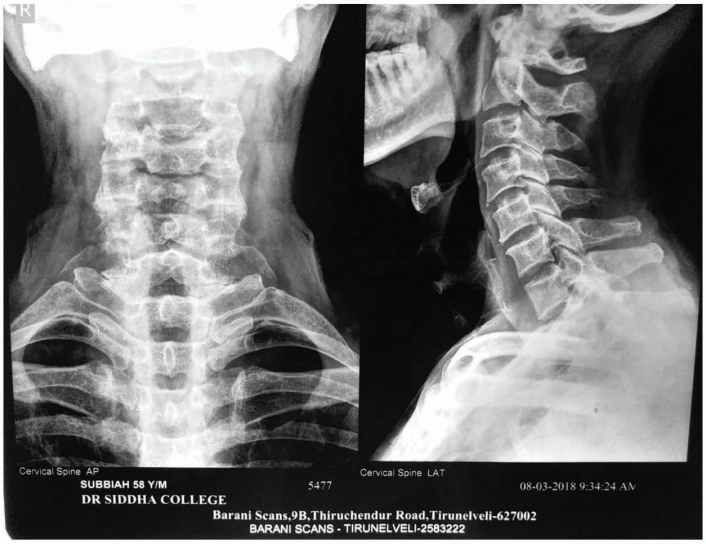
9-B, Thiruchendur Road, (Near Murugankuruchi Signal)
Palayamkottai, TIRUNELVELI - 627 002.
Ph : 0462 - 2583222, 0462 - 4000014 email : baraniscans@yahoo.com

X-RAY FINDING

PATIENT NAME : SUBBIAH OP NO:919

AGE/SEX:58Y/M DATE:08.03.2018

AFTER TREATEMENT



BARANI SCANS

Serving with Humanity

NAME	Mr. SUBBIAH	DATE	08.03.2018
AGE/SEX	58Y/M	ID	5477

X-RAY C-SPINE AP & LATERAL VIEW

Anterior osteophytes present in C4 to C6 vertebra.

Prominent of transverse process of C7 vertebra in both sides.

The intervertebral disc spaces appear normal.

Other cervical vertebra appears normal.

Intervertebral lines appear normal.

Pre& Paravertebral soft tissue appear normal.

IMPRESSION:

- **Anterior spondylotic changes in C4 to C6 vertebra.**
- **Prominent of transverse process of C7 vertebra in both sides.**

Dr.A.GOPINATH,MD(RD)
CONSULTANT RADIOLOGIST
Ph.No:8870009015

Note: *This imaging modality has its own limitations. Hence it should be correlated with clinical & other parameters. Patient's identity is not verified.*

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தேவையான சரக்குகள்

இஞ்சி

ஏலம்

சுக்கு

மிளகு

திப்பிலி

கிராம்பு

ஓமம்

வாலுழுவை

சாதிக்காய்

யானை திப்பிலி

சீரகம்

அதிமதுரம்

குரோசாணி ஓமம்

அமுக்கரா

கசகசா

இலவங்கபத்திரி

திப்பிலிவேர்

கொத்தமல்லி

பேரீச்சை

முந்திரிகை

சீனி

இஞ்சிச் சூரணம்